DISEASES OF HORSES AND CATTLE—CAWSEY

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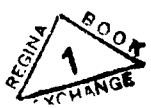
H. S. CAWSEY, M.D.V.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EXCHANGE

DISEASES
HORSES AND CATTLE

BY

H. S. CAWSEY, M.D.V.

Matriculant McGill University
Graduate McKillip Veterinary College, Chicago
Professor and Demonstrator of Anatomy
McKillip Veterinary College
Late Veterinary Inspector, Dominion
Department of Agriculture

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Preface

Having been engaged in the veterinary profession for some twenty years, and realising the difficulty experienced and expense incurred by the rural stock owner in securing expert and scientific services at the critical moment, has convinced me that the time is opportune and the necessity urgent for a work such as this book. That it will prove to be very acceptable, and I trust highly appreciated, by the Farmer and Stockman who is interested in the health and comfort of our most faithful dumb friends, I feel assured.

Further, realising the many volumes which could be written on this subject, and the years of study necessary to enable one to digest the same intelligently, I have devoted my energy to the study and explanation of the diseases most commonly met with, and endeavored to deal with such in as simple and practical a manner as possible, so that no difficulty may be experienced by the layman, in recognising any particular abnormal conditon arising, and on the avoidance of confusing the symptoms of one disease with that of another.

I therefore take pleasure in dedicating this, my first book, to those who may find in it assistance and instruction that may tend to allay pain and the cure of disease in our beloved Domestic Animals.

THE AUTHOR.

Part I.—The Horse

Medical Terms necessary to understand

Diagnosis — *Is the art of determining the exac disease or abnormality with which the*

ERRATA

Preface—"On the avoidance" should read "in the avoidance."

Page 10, Line	3	—"1000.8" should read "100.8."
18	1	—"Eleven weeks" should read "Eleven months."
18	6	—"Month and six weeks" should read "month or six weeks."
28	11	—"Water" should read "watery."
34		—Heading "Dopsy" should read "Dropsy."
60	12	—"Glutenous" should read "Glutenous."
90	9	—"Myodarditis" should read "Myocarditis."

noise, loud talking, shouting, etc., should be strictly prohibited. Grooming during illness is most important, and when accomplished regularly, plays a very important part in the patient making a favorable recovery.

A sick horse requires and appreciates clean, comfortable and quiet surroundings just as much as a man and if given such, the treatments recommended in this book will be attended with far better results than if these necessities are denied or neglected.

Part I.—The Horse

Medical Terms necessary to understand

Diagnosis — *Is the art of determining the exac disease or abnormality with which the patient is suffering.*

Prognosis — *Is the art of determining the period of duration or termination of a disease or abnormality whether favorable or otherwtse.*

GENERAL HINTS ON THE CARE OF SICK HORSES

When a horse is noticed to give evidence of sickness the first thing to do is to make him as comfortable as possible by placing him in a box stall that is sanitary, roomy and well lighted. There should always be a circulation of fresh air, direct drafts being avoided. The clothing should be appropriate to the season and the nature of the illness. All noise, loud talking, shouting, etc., should be strictly prohibited. Grooming during illness is most important, and when accomplished regularly, plays a very important part in the patient making a favorable recovery.

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TEMPERATURE

It is remarkable the wide difference which exist in the normal temperatures of animals of the same class, the horse averaging from 100.4 to ~~1000.8~~ degrees F. Stallions have the lowest, geldings the next, and the mare the highest normal temperature.

Horses that are stabled have a higher temperature than those living in the open.

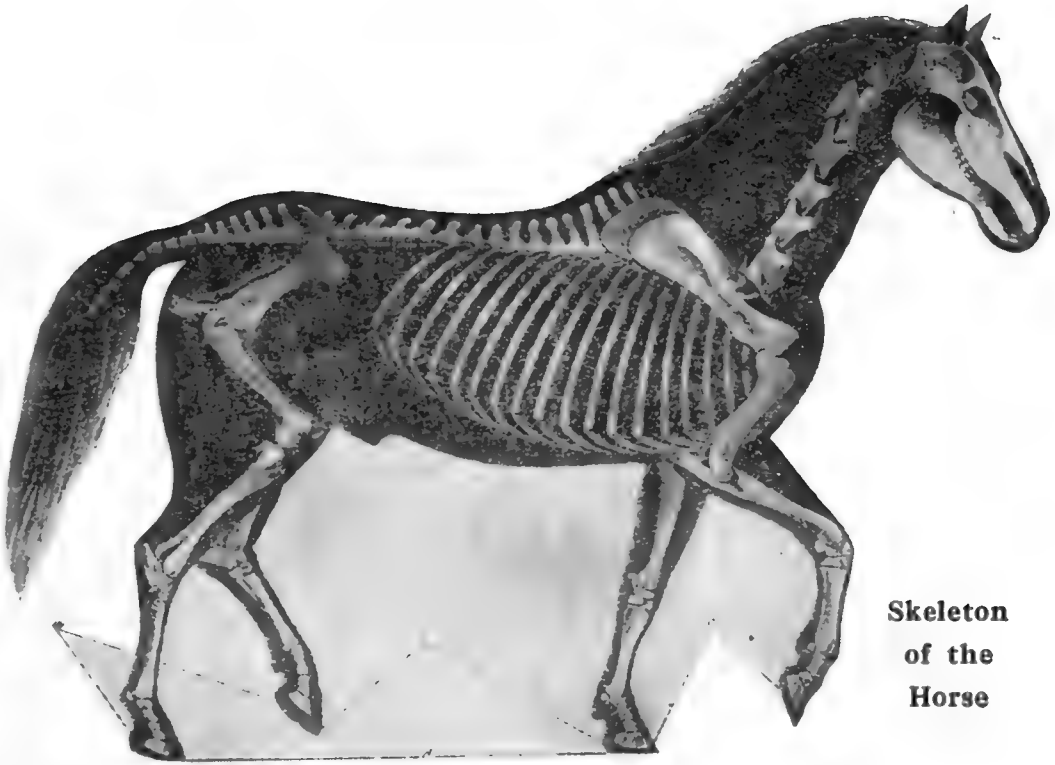
The time of day is important, the lowest temperature of the day being at four a.m. and the highest at six p.m., this being true whether in health or disease.

As a rule the larger the animal the lower the normal temperature. Eating, exercise or excitement will always raise the temperature.

In the horse the location for obtaining the temperature is the rectum. The thermometer should be shaken down, inserted in the anus and allowed to remain undisturbed for at least one and one-half minutes, when it should be carefully withdrawn to enable one to obtain a correct reading.

Normal Chart:

Temperature—100.2 degrees Fahrenheit.
Pulse—36 to 40 beats per minute.
Respiration—8 to 10 per minute.



Skeleton of the Horse

Administration of Medicines

There are five general methods of administering the necessary medicinal remedies, viz.:

Oral or by the mouth, such as the drench, dose syringe, ball or capsule and powder.

Hypodermic. Under the skin or into a vein, usually the Jugular.

Rectal. Into anus by means of the injection pump syringe or capsule.

Uterine (Female). Agents the same as in the rectal method.

Local Application. Depositing, rubbing on or into the affected parts.

To deal with each method separately is a most important and essential consideration.

The first mentioned (Oral) is no doubt by far the most common and the most frequent method employed by the stockman, and the one from which there is more possibility of injury than any of the other systems mentioned.

The Drench

It is well to emphasize the fact that the giving of drenches in large quantities is to be avoided as far as it is possible.

It is not an uncommon sight to witness an attendant of a sick horse attempting to administer a dose of medicine from a large bottle, with the patient's head elevated at an extreme angle, a rope noosed around the upper jaw passed over a beam of the stable and an assistant pulling with might and main, inflicting most horrible punishment to the already suffering animal, and rubbing and pounding with his fist on the extended throat and neck.

This method is to be greatly deplored and discouraged for the following reasons:

First: It is unhumane.

Second: It is most impractical, the position causing as it does, the inactivity of the muscles and organs concerned in the function of swallowing. The rubbing and pounding of the neck and throat is very apt to, and does, cause the medicine to pass down the wind-pipe into the lungs, and sometimes, in such quantities as to cause a Mechanical Pneumonia from which there is slight chance of recovery and which in fact is ninety-five per cent. fatal.

There is possibly only one instance where drenching is necessary: i.e.: when it is desired to give a large dose of raw linseed oil. In this case the method employed is as follows:

Use a soft cotton rope with a noose just large enough to pass around the upper front teeth and gums, but not around the nostrils. Pass the free end through a pulley overhead and have the assistant use gentle, steady traction, elevating the head to a reasonable, but not an acute angle. Administer the medicine slowly and in small quantities, allowing the patient ease and plenty of time in swallowing. Whether this is being accomplished is readily discernible by the movement of the muscles of the throat and neck. Never permit the rubbing or pounding previously referred to.

The moment there is any evidence or suspicion of the patient attempting to cough, the head should be lowered. Here the use of the overhead pulley will be most helpful. This method will almost entirely remove all danger of future complications and is the correct one when drenching is necessary.

The Dose Syringe

This beyond question, is the most desirable method to employ where it is necessary to give fluid medicine. Use an ordinary metal syringe of about 2 oz. capacity. Have the assistant place one hand on top of the patient's head and the other across the nasal bones, but do not squeeze the nostrils.

The operator grasps the tongue with the left hand, and using gentle traction, pulls it out and draws it to one side, inserts the syringe containing the medicine in the opposite side of the mouth, and pushes the plunger, releasing the tongue at the same time. This will enable the patient to have the full use of all the organs of swallowing, which function is accomplished normally, and, if properly performed, none of the remedy is spilled or expectorated by the patient. Further the possibilities of complications arising from the act are positively nil. This operation can be repeated until the required quantity is given.

Ball or Capsule

This is a very desirable method, and, particularly the capsule when drugs of an irritating nature are to be given. The method (of administration and the accomplishment of same) requires practice. Have the assistant hold the patient in the same manner as when the syringe is being used. Grasp the tongue well back with the left hand, and by gentle traction, extract the tongue between the rows of front teeth, turning the tip back over the hand, causing the mouth to remain open. The animal then, if it attempts to bite, inflicts punishment upon itself and will cease immediately. Place the ball or capsule between the first and third fingers and under the second. Do not cramp the hand, but extend it straight from the wrist. Now press down and pull

out on the tongue, insert the right hand into the mouth at the side, pass the hand slowly over the tongue back to the base, deposit the ball or capsule withdraw the hand slowly and release the tongue at the same time. The outline of the object, passing down the neck, is distinctly visible. If it is not immediately, or in a reasonable time perceptible, offer the patient a drink of water, which, if taken, will tend to complete the operation.

Powders

Secure the patient and hold the tongue as already explained, placing the powder on the top of the tongue, well back towards it's base, and release the tongue as in giving ball or capsule.

Hypodermic

This method, as it involves a surgical operation, should not be resorted to by the layman. We are therefore, not interested in the discussion of same.

Rectal

This method is not often resorted to, and then only in extreme cases, such as in Lock Jaw, as absorption from this portion of the small bowel is very uncertain and, in any case, very limited. In administering enemas, it is well not to be rash or to use harsh or irritating remedies. When using the injection pump, go slowly and steadily, never introducing more than from two to four quarts of the injection fluid without first allowing the patient time to evacuate before proceeding. This quantity will be retained for a much longer time than where a larger amount is used, which is the object desirable to attain.

When a capsule is used simply insert the same as far in as it is possible to reach with the hand,

deposit it at that point where absorption will occur. (The Rectum should first be flushed out with luke warm water.)

Uterine

This method is employed upon females when it is desired to use some agent for soothing irritated and inflamed membranes. It consists of simply inserting the hand and depositing the remedy as in the Rectal operation.

Local Application

This means the act of rubbing or depositing on the surface, the medicinal agent required, such as, liniments, ointments, etc.

GENERAL TREATMENT OF WOUNDS

The first thing to be considered in the treatment of any wound, no matter of what nature or where it is located on the animal's body, is the thorough cleansing and disinfection of the same.

If the wound is accompanied by a hemorrhage this should be first controlled before attempting to dress the same.

This is accomplished in various ways, the most common methods being the application of tight bandages exerting a pressure on the blood vessels responsible for the bleeding or by tying the vessels with stitches.

After this has been done the hair should be clipped or shaved from the margins of the wound, and the same thoroughly and carefully washed with one tablespoonful of Dr. Cawsey's "Aseptosol" added to one-half a pailful of warm water.

After this procedure gently saturate the whole wound with Dr. Cawsey's "Astringol" and complete the dressing by dusting liberally with Dr. Cawsey's "dusting powder."

Where it is possible to apply a bandage, and before applying the same, a portion of Dr. Cawsey's "Healol Ointment" should be liberally smeared on it to prevent it becoming adhered to the wound, thus ensuring easy removal of the bandage in future dressings.

By following this general line of treatment, being particular in seeing that cleanliness and disinfection is always carefully observed, complications, such as blood-poison will rarely, if ever, follow.

Where the wound is deep and ulcerous in character, the pus should be removed by means of syringe containing the disinfectant agent, and unless thorough drainage is provided so that the pus may have free escape at all times, the treatment of such wounds will not show very encouraging results.

Besides where pus is confined there is always a certain percentage of it absorbed into the system and carried by the blood stream to all parts of the body and this may result in a generalised blood-poison which condition must always be viewed with alarm and the patient's recovery considered an uncertainty.

THE CARE OF A MARE IN FOAL

A mare normally carries the foal eleven weeks but occasionally the foal is born some days or weeks before this time, in which case it is generally weak and puny and requires extraordinary care to keep it alive.

Then again a mare will go a month and six weeks overtime for reasons unknown, and apparently suffer no inconvenience and the foal is usually robust and healthy.

During the time a mare is carrying her foal she should be given every consideration as regards her comfort and general health.

The stable should be sanitary and light, the food of the best quality and the work or exercise not extreme but regular, right up to the time of foaling.

Any disease occuring during this period should be treated promptly, always avoiding drastic purgatives as remedies.

The indications of a mare about to give birth are unmistakable. The udder is enlarged, the teets covered with wax, usually dripping milk, the vulva has a flaxen appearance, there is generally a discharge from the same of a healthy white mucous, the muscles of the hip relax and fall away, she becomes restless, lying down and rising frequently, and exhibiting symptoms resembling colic.

She should now be placed in a well bedded, sanitary box stall, her vulva and hind parts washed with one tablespoonful of Dr. Cawsey's "Aseptosol" in a pail of warm water, all noise and excitement avoided, and left absolutely quiet and alone.

If the birth is normal the final stages of the parturition are rapidly completed and it is folly to interfere or attempt to give asisstance until convinced it is necessary.

As soon as the foal is born disinfect the navel cord with Dr. Cawsey's "Aseptosol", tie it tightly about six inches from the body and cut the membranes free, next remove the after birth and all debris from the stall and leave the mother and foal entirely to themselves and under no circumstances interfere with the natural habits of either.

During the time the mare is nursing the foal she should be given the best quality of feed and turned to pasture. This will assure a plentiful flow of the best quality milk, thus resulting in a strong, healthy colt.

CONTAGIOUS AND INFECTIOUS DISEASES

LOCK JAW—TETANUS

This disease affects man and all domestic animals, and is a tetanic or chronic contraction of all the muscles comprising the whole anatomy.

Causes—Introduction of a germ, through injuries where an abrasion of the skin has been caused by injuries, nail punctures and castration are common causes. Deep punctured wounds are the most liable, while it very rarely, if ever, occurs from lacerated suppurative ones. The germ remains at the seat of entrance, dies in its own product, but poison thus produced is carried by the circulation to all parts of the body.

Symptoms—The first symptoms appear in from five days to three weeks after the injury, when certain muscles are noticed to be stiff and rigid. This condition either extending from the front to the back, or the reverse, soon becoming generalised over the whole body. The muscles of the chest and abdomen are drawn tense, their outlines being clearly defined. The head and neck are held rigid, the upper lip drawn up, exposing the teeth, the mouth is shut tightly. The haw of the eye is exposed and prominent. Toes are turned in and elbows out, and the tail is elevated and stiff. If approached suddenly the patient will become excited, sometimes going into a convulsion.

As the disease advances, all these symptoms become more pronounced and the convulsions are of a frequent occurence. The temperature is normal, the appetite good, and the patient would eat if it were possible. Tendency toward constipation and perspiration. This course lasts from sixteen to twenty-one days, if the patient lives that long.

Treatment—Most favorable surroundings. Isolate from all other animals and absolute quiet-

Normal Presentations of Colt

ness are the most essential remedies. The stall made absolutely dark, cover the floor with sawdust, as the rustling of straw will very often induce a convulsion, which should be avoided at all times. Place the patient in slings, but do not adjust them tightly, but just so the patient will recognise their support, for if he lies or falls down, there is the greatest difficulty in putting him on his feet again. A pail of fresh, cool water should be placed so it is always within easy reach, and attempts made to have him take gruel frequently.

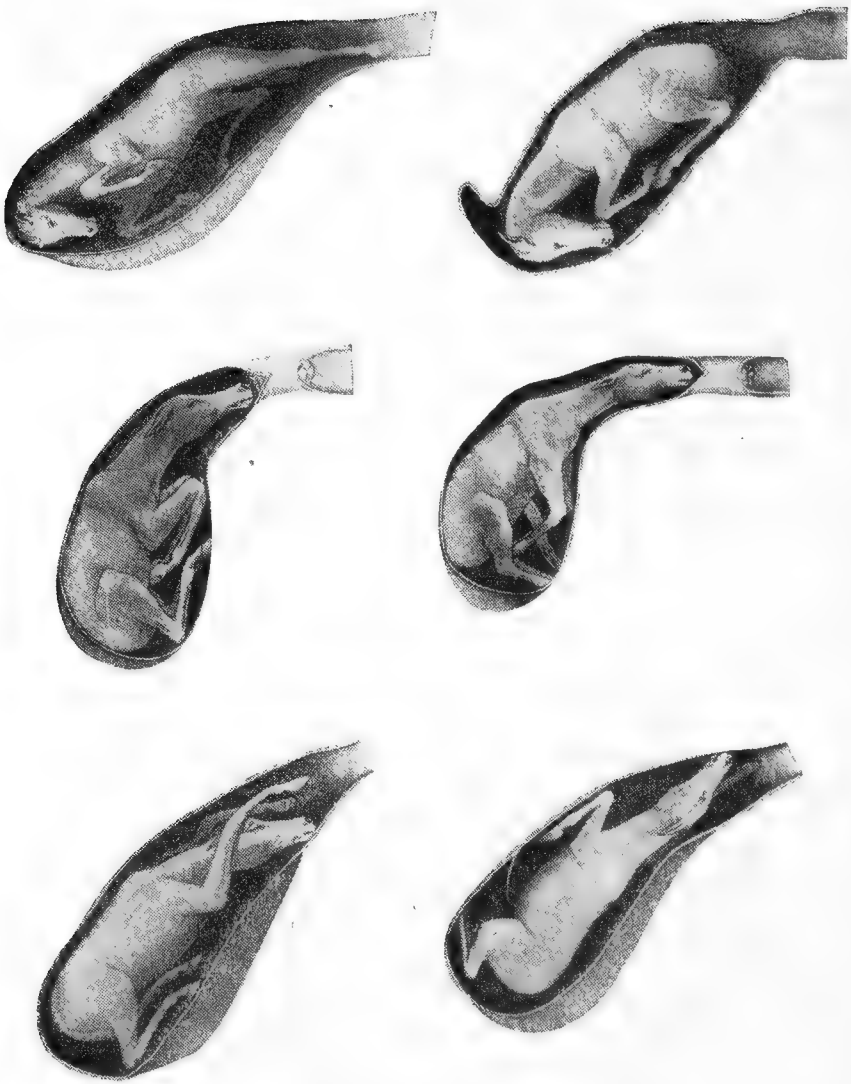
To give medicine is a most difficult accomplishment as the very act of attempting to do so will very often cause a convulsion which will do more harm than the medicine will do good. Antitoxin is of no value as a curative, but only as a preventative agent.

Under no circumstances attempt to drench the patient as there is a paralysis of the throat, the animal being unable to swallow and the medicine will run down the wind-pipe, producing pneumonia.

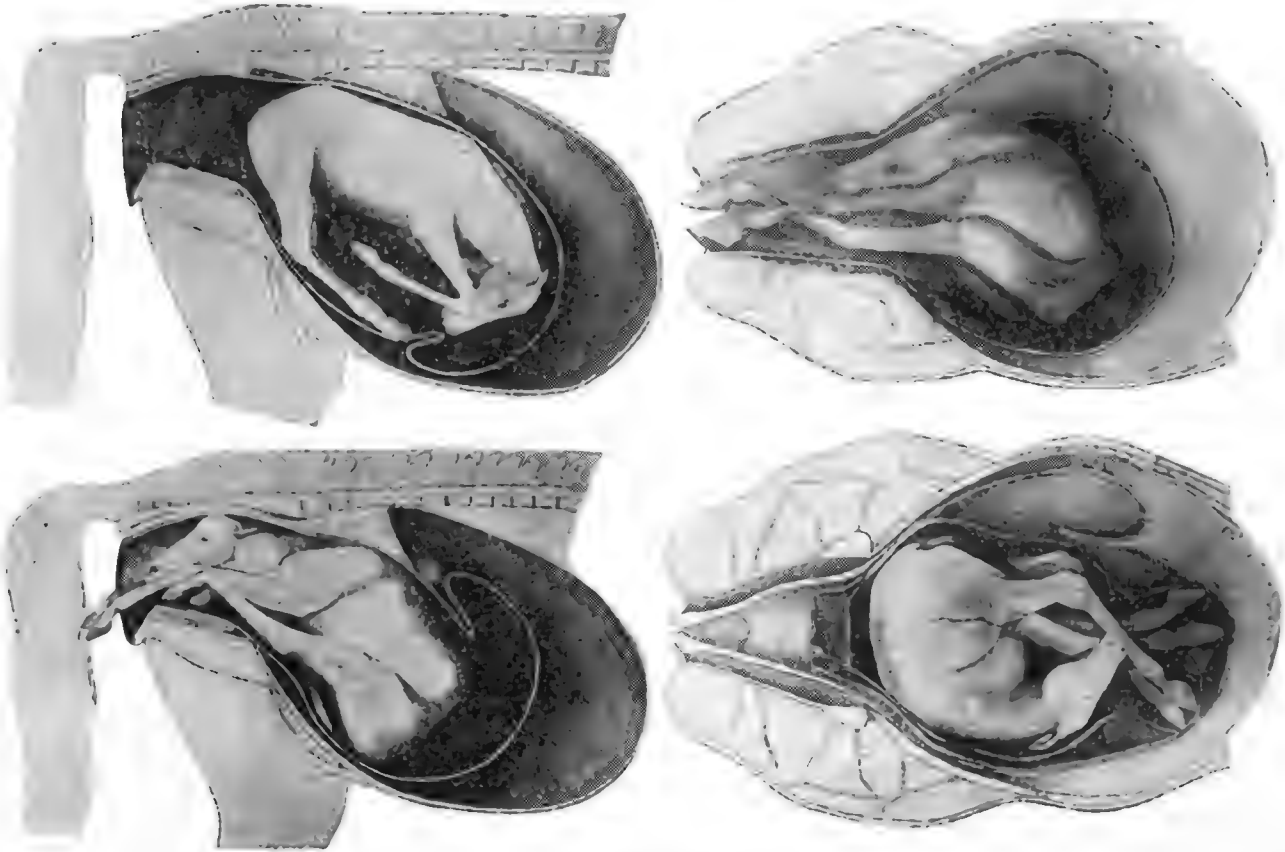
About the only method of administering medicine is by the Rectum, and in this case 30 grammes of "Chloral Hydrate" should be mixed in thin, warm gruel and injected into the Rectum, four times daily. As "Founder" is a frequent complication of Lock-Jaw precaution should be taken by placing cold water swabs on the feet and keeping the sawdust on which the patient stands, damp at all times. If this treatment is strictly observed and patient lives over the twenty-first day, the stiffness gradually disappears. One ounce of Dr. Cawsey's "Fever Tonic" should be given with a syringe four times daily and one tablespoonful of Dr. Cawsey's "Convalescent Powder", given in the regular feed, for one month.

After this period turn out to pasture for two months, when the patient should show no bad results.

One attack does not cause an immunity as it will occur as many times as the conditions for its development are favorable.



Abnormal Presentations of Colt



Abnormal Presentations of Colt

GLANDERS

This is a necessarily fatal disease of horses and mules, the same being true of man, and is communicable from one to the other. Dogs, goats, rabbits and sheep may also have Glanders, while cattle and swine are never affected, being naturally immune to it. This disease has been known since 1700 A.D., and is prevalent in all the countries of the world, and is very common during wars when large numbers of horses are closely associated.

Causes—The direct and only possible agent that can produce Glanders is a germ known as the "Bacillus Mallei" and a horse must become infected with this particular germ before it can be said to have this disease. Some horses contract it very readily and upon very slight exposure, while others will resist it for a long and indefinite period, but horses in a run-down condition and suffering with some debilitating disease, are easy victims to its ravages.

Symptoms—A horse may have Glanders for a long time, possibly three or more years, before showing any evidence of its presence, and although apparently not suffering individually, or causing the owner the least suspicion, gives the disease to other horses with which it comes in contact, they probably exhibiting all the symptoms in an aggravated form and consequently accused of the source of the appearance of the symptoms in others. This incident explains why it is always difficult to trace an outbreak of Glanders to its origin. About the first symptom to arouse suspicion of the owner will be the discharge from one or usually both the nostrils, this discharge is very characteristic and is readily recognised by the experienced veterinarian. It is a whitist-yellowish color, thick and very viscid, being almost like a thin mucilage, the particles of

dust and hay accumulating on the nostrils and to anything which the discharge has covered, such as the halter shank, manger, etc. It is also well to mention that there is no foul odor emenating from a Glandered Discharge. The glands of the throat and neck are swollen and hard, and sometimes they rupture and discharge a pus similar in character to that from the nostrils, and when the glands of the inside of the legs and those on the abdomen and body are prominent and rupture discharging a pus, this condition is called skin Glanders or Farcy. When these symptoms are in evidence and there is doubt as to Glanders being the cause of the same, the patient should be submitted to the Mallein test, which is really the only means of deciding and arriving at a correct diagnosis.

MANGE

This is a contagious disease being due to a parasite or mite which infests the skin and is communicated from the diseased to the healthy animal by the parasites or their eggs being transplanted through contact. These parasites can be seen with an ordinary magnifying glass or if exposed to the bright sunlight may be seen with the naked eye.

The roots of the tail and the top of the neck are usually the favorite location, but the symptoms soon become general, covering the whole body. There is a great itchiness, the patient rubbing and scratching against every possible object, the hair falls out and scabs form on various spots of the body. The skin wrinkles in thick folds known as elephant skin, from which scales can be brushed. The animal is generally in poor condition due to the incessant irritation caused by the activity of the parasites.

This disease is more prevelant in the winter than during the summer months, apparently disappearing automatically during the latter season.

Treatment—The skin should be thoroughly washed with soft soap and warm water, adding one tablespoonful of Dr. Cawsey's "Aseptosol" to one pailful of warm water. This should be applied briskly with a stiff brush to insure that all the scabs on the surface will be removed. In order to destroy all the more recently hatched parasites this treatment should be repeated every five days until the animal has had four applications.

All objects with which the infected animals have been in contact and upon which they have been accustomed to scratch should be thoroughly sprinkled or washed with a strong solution such as Dr. Cawsey's "Aseptosol." If this is not done the source of re-infection still exists and will be a never-ending cause of worry and expense. All harness that has been exposed should be dipped in a solution similar to that used for disinfecting other objects.

MALADIE DU COIT—DOURINE

EQUINE SYPHILLIS

This is a highly infectious venereal disease of stallions and mares being communicated from one to the other during service.

It is incurable and is due to the entrance into the system of a germ known as the Trypanosoma Equiperdum.

This disease, known for a long time in the European countries, was first introduced to this continent in 1882 by a Percheron stallion imported from France and used for service in Illinois. Unfortunately the nature of the infection was not discovered

until several years had elapsed, during which period a considerable number of mares and stallions had become infected, they in turn being shipped to various sections, until eventually it found its way into Western Canada, the first knowledge of its existence here being in 1904, when it was recognised in the Lethbridge, Alberta, district.

Symptoms—The first symptom is usually not noticed by the inexperienced. In the stallion the external opening at the end of the penis becomes red and swollen, causing it to bulge out prominently, followed by a discharge at first almost unnoticeable, but gradually increasing in quantity as the disease advances. During this stage, although the symptoms have not been observed by the unsuspicious attendant, the stallion is a positive infective agent, his desire for serving mares being greatly increased, and his ability for performing this function not being impaired. Follows frequent erections of the penis, sometimes the animal being unable to retract same into the sheath.

Ulcers form on the sheath and penis which often rupture and discharge pus. White patches and spots appear on the black tissue of the sheath and that under the anus. Large flat doughy-like swellings appear along the sides and abdomen which disappear very suddenly ony to reappear again, probably in another location.

The penis becomes paralysed and is constantly protruding and of enormous proportions, the facial muscles become paralysed, the ears drooping and the lips pendant, the patient grows thin rapidly, the appetite is lost, and if lying down has difficulty in rising. Finally the hind quarters are completely paralysed, the animal is unable to rise, soon dies or should be destroyed.

In the mare the same symptoms are evidenced, except of course, where in the stallion the penis is involved, the same conditions apply to the corresponding organs in the mare.

Diagnosis—The only positive method of making a diagnosis in the early stages is by the Wasserman or Compliment Fixation tests.

A sample of blood (about one ounce) is secured from the suspected animal and sent to a qualified pathologist who will submit it to the test referred to and be able to give the required dvice.

DISEASES OF THE RESPIRATORY ORGANS

LARYNGITIS

Inflammation of the larynx or boxlike structure at the entrance of the wind-pipe.

Causes—Very common in the spring and fall due to the changeable weather, injuries from drenching with irritating drugs, occurs from diseases of surrounding air ogans, etc.

Symptoms—Dry strangling desperate cough, chills, temperature 103 to 107, head hangs low, neck held stiff, drowsy, difficulty in swallowing food and water may run out through nose, discharges from nostrils at first water, finally changing to pus. Great tendency to affect other horses in the same stable. (CONTAGIOUS).

Treatment—Isolate from all other horses, warm clothing, apply bandages to limbs, steamed bran and oats as the moisture from same is beneficial, local applications of Dr. Cawsey's "Red Anodyne Liniment" to the whole throat surface daily. Give one ounce of Dr. Cawsey's "Fever Tonic" specific, every three hours with syringe for ten days or until temperature become normal. Now blister throat mildly with Dr. Cawsey's "Precipitol" and add to regular feed one tablespoonful of Dr. Cawsey's "Convalescent Powder," continuing this treatment for at least one month, together with gentle exercise during the warm parts of the day.

PNEUMONIA—INFLAMMATIAN OF THE LUNGS

As there are several forms and varieties of this most serious disease, it is impossible to give all the details of each and every one, in simplified language, and expect the layman to grasp intelligently a full

understanding of even one of the various types without causing him considerable confusion.

It is, therefore, much wiser in my opinion, to attempt to explain the two varities which cover the subject of Pneumonia generally, namely: Contagious and Non-Contagious Pneumonia.

Contagious or Infectious Pneumonia—

Causes—This variety attacking one horse has a tendency to affect others and sometimes all the horses in the same stable, and is a very serious condition, resulting fatally in the majority of cases. It nearly always follows some other infectious disease such as distemper, strangles and Pink-eye. Very rarely seen as the original disease.

Symptoms—The three distinctive features in this form are great depression and weakness, high temperature, and the membranes of the mouth appear dirty, of a greenish-yellowish color, and have a hot, clammy feel. At first there is a noticeable chill, the food is refused, loses ambition, hangs back in the harness, head drooped, eyes partly closed, stands listless, constantly changing attitude, sways from side to side, trails limbs, easily exhausted, temperature 105 to 107, pulse rapid and seems small and difficult to feel, may have a slight bloody-watery discharge from the nostrils, limbs swollen and warm. Usually both lungs are affected at the start. Bowels may be sloppy or constipated, causing slight colicky pains. As the disease advances, breathing becomes difficult and noisy, discharge changes to pus with a foul odor, refuses to lie down, will always drink a little. Death usually occurs from heart failure or asphyxia.

Treatment—Isolate immediately. Comfortable well ventilated box stall in the sunshine if possible, warm light weight blanket, bandage limbs, with friction apply liberally to sides Dr. Cawsey's "Red

Anodyne Liniment" and give one ounce with syringe of Dr. Cawsey's "Fever Tonic" every two hours. Steam the head with pail of hot water, adding first two tablespoonfuls of Dr. Cawsey's "Aseptosol" for one hour three times daily. Encourage patient to eat small quantities of good oats and bran frequently, but do not give mashes. Grass, if in season, is an excellent diet. Give a wine glassful of good brandy or whisky four times daily. Continue this treatment for seven days when the crisis will occur, after which still continue Dr. Cawsey's "Fever Tonic" specific and in addition give one tablespoonful of Dr. Cawsey's "Convalescent Powder" in the regular rations. Gentle exercise daily, and expose patient to the warm sunshine at every opportunity.

During the course there are liable to be various complications, and as they appear they must be treated accordingly, the remedies for combatting the same will be found in the Dr. Cawsey's emergency case.

NON-INFECTIOUS OR RHEUMATIC PNEUMONIA

Causes—This form is due to exposure to cold drafts and unsanitary stables, and responds favorably to treatment.

Symptoms—The course of this condition runs a very regular and typical one. First there is the stage of congestion, which, if noticed in time, and given the proper treatment, can be stopped from going any further. This stage lasts about twenty-four hours. Next there is the stage of solidification in which the lung resembles the liver and extends over a period of three days, and once this stage appears nature takes its course, and the patient requires stimulation and support to carry him through the next stage, which is unavoidable.

The third stage the abnormal solid elements in the lung liquify and extends over a period of three to four days. This is the very critical period where recovery begins or death starts, and the patient requires every attention and stimulation to assist him in resisting a failing heart action.

There is first a chill, lasting from a few minutes to several hours, temperature 103 to 104, ears drooped, limbs hot and cold alternately, tight, dry, straining cough, loss of appetite, pulse 60 to 70 beats per minute, will drink limited amount of water, membranes of the mouth are inflamed but of clean appearance, tendency toward constipation, if only one lung affected will lie down on that side, to allow expansion of the healthy and avoid the heavy diseased lung from causing pressure by falling upon the unaffected organ. If both sides are involved the patient will persist in constant standing, the breathing becomes difficult and noisy. The crisis occurs on the eighth or ninth day.

Treatment—Well ventilated, comfortable box stall, apply liberally to both sides and the chest Dr. Cawsey's "Red Anodyne Liniment," warm, light weight blanket, bandages to limbs, administer with syringe one ounce of Dr. Cawsey's "Fever Tonic Specific" every three hours, steam the nostrils with one tablespoonful of Dr. Cawsey's "Aseptosol", added to one pail of water. This should be done twice daily. This general line of treatment should be continued until after the crisis is passed, now give gentle, moderate exercise in the sunshine daily, and give one tablespoonful of Dr. Cawsey's "Convalescent Powder" in regular rations of oats and bran of the best quality. If these instructions are followed faithfully the results of such will give the utmost satisfaction and a favorable recovery can be expected.

PLEURISY

This is an inflammation of the tissue-paper like membrane covering the lungs and lining the chest cavity, and may appear by itself or may be complicated with some other disease.

It may be simple or due to cold, in which case, if treated early will respond readily to treatment, or it may be infectious, when there is a great danger of the patient succumbing to its ravages.

Symptoms—Are very similar to Pneumonia and may easily be confused with the same, but when Pleurisy occurs the toes are always turned in, the elbows turned out away from the body, and the patient stands fixed in the one spot, and if forced to move will issue a distinctive grunt which becomes aggravated by tapping suddenly with the fingers against the chest walls or sides.

Frequently sighs indicating a painful breathing,

and if turned abruptly in a circle, the grunt referred to is distinctly recognised. Further, by placing the ear against the ribs, low down towards the front, a sound similar to the rustling of paper is easily heard, but as the disease advances the sound assumes a watery character.

Treatment—Should be the same as in Pneumonia but a paste made of equal parts of mustard and cold water should be thoroughly rubbed into the hair, allowed to remain on for four hours, when it should be washed off with soap and warm water and thoroughly dried, and the same line of treatment as advised in Pneumonia, if followed, will give excellent results.

HYDROTHORAX—WATER ON THE LUNGS DOPSY OF THE CHEST

This disease can always be considered as the result of a previous attack of Pleurisy, but heart, liver and kidney diseases may also be the cause.

Symptoms—It is very difficult to recognise until the disease is well advanced. By placing the ear to the chest walls the presence of fluid on both sides is noticed, breathing is similar to Heaves, the pulse is fast, small and irregular, temperature 103 to 105, extending over weeks, easily exhausted, persists in standing spread out and fixed for hours at a time. Surpressed, painful cough, appetite irregular, bowels inclined to be sloppy, and frequent chills are very common.

Treatment—As this is surgical, i.e., the fluid should be drawn off, a Veterinarian should be engaged, but after this has been accomplished Dr. Cawsey's "Fever Tonic" should be given, one ounce with syringe four times daily, and one tablespoonful of Dr. Cawsey's "Convalescent Powder" in the regular rations will assist greatly in a favorable recovery. Best foods, sun baths and active exercise are important to promote absorption and prevent adhesions. The patient should be watched closely for a return of the symptoms, as there is always a possibility of the fluids accumulating again.

ASTHMA—BROKEN WIND OR HEAVES

This condition may be caused by diseases of the heart, stomach or the lungs. As the first two are of very rare occurance and most difficult to diagnose, it is advisable to consider the last mentioned (Lungs) only.

When the lungs are the direct cause of Heaves the following factors are responsible for its development:

Follows other diseases such as Pneumonia and Pleurisy. Seen frequently in damp climates and countries of a low altitude, very seldom in high, dry altitudes. In fact, horses suffering from Heaves very often make a spontaneous recovery when moved from a low to a high altitude, but will again return if moved back to the first habitation.

The lungs are composed of millions of air cells the walls of which are very elastic and normally contract and expand in proportion to the amount of air leaving or entering the cell cavities, and very readily accommodate themselves to almost any emergency occurring.

Through disease these cell walls become expanded to the extent of being ruptured, being unable to contract sufficiently to cause expulsion of the impure air contained in them and resulting in a permanent chronic dilation of the cell walls.

Symptoms—Usually seen in horses of advanced years (after eight years of age) nostrils greatly dilated, difficult double respiration, wheezing, dry rapid, cough. Rarely leads directly to death.

Treatment—Incurable. If possible remove to a higher altitude, give one of Dr. Cawsey's "Cathartic Pills," best quality and limited quantity of damp cut feed. Give one tablespoonful of Dr. Cawsey's "Convalescent Powder" in the same. By following this line of treatment there will be a noticeable improvement but to cure permanently is an impossibility.

HAEMORRHAGE OF THE LUNGS

This is due to a weakness of the blood vessel walls naturally, or as a result of some previous disease, and when it occurs the blood flows from the nostrils and mouth in great quantities, being always distinguished by its extreme redness, mixed with air causing the blood to be very frothy.

This is always accompanied by a violent shock to the system, the patient sometimes falling over, with an expression of great depression.

The treatment consists in causing to remain perfectly still and soaking blankets in ice cold water, wrapping them completely around the body, changing every few minutes, being continued for at least one hour after the haemorrhage has been controlled. The patient should be rubbed thoroughly dry, clothed with a light blanket and placed in a cool, well ventilated stall and his head tied to prevent him lying down for at least forty-eight hours. His ordinary diet should be reduced by half into which has been put one tablespoonful of Dr. Cawsey's "Convalescent Powder." After two weeks the patient should be turned out to pasture for one month, when he will appear as good as ever, but there is always a danger of a recurrence, eventually ending fatally.

NASAL CATARRH

An inflammation of the Mucous Membrane which is the membrane or tissue lining the nasal chambers.

Causes—Usually follows some other diseases such as Distemper, Influenza, etc., and is really a chronic disease and very difficult to relieve. Colds, chills, drafts and exposure to cold rains may cause this condition primarily.

Symptoms—A constant discharge of a repulsive whittish-yellowish pus from one or both nostrils,

which increases in quantity from time to time. It may even cease for a few days or a week, after which the discharge appears more copious than before. Very rarely has any bad odor, temperature is normal, appetite unimpaired, appears healthy.

Treatment—Well ventilated stables, wash nose out frequently with Dr. Cawsey's "Aseptosol" but as this is a constitutional disease, give one of Dr. Cawsey's "Cathartic Pills" and after the laxative action has ceased give one tablespoonful of Dr. Cawsey's "Convalescent Powder" in regular feed for a period extending over two months. Great benefit will be derived by steaming the head daily with hot water into which has been put one ounce of Dr. Cawsey's "Aseptosol."

TUMORS IN THE NOSE

A fibrous growth in the nasal cavity usually caused by some injury, producing noisy, difficult breathing. sometimes causing a discharge from the affected nostril of pus mixed with blood.

Treatment—Surgery is the only means of relief in which case it is advisable to employ a Veterinarian.

DISTEMPER OR INFLUENZA

This is an acute Catarrhal condition of the upper air passages, including the nasal chambers, and usually involving the Glands of the head, lower jaw and throat, due to an infection with certain bacteria.

Causes—May be said to be confined to young horses as it is rarely seen in patients over eight years of age. Usually contracted by being exposed to other horses suffering from the same disease, but exposure to cold, drafts, changeable spring and fall weather, housed in badly ventilated and unsanitary stable, are always factors favorable to its development.

Symptoms—Always starts with a chill, though possibly not always noticed, loss of appetite, harsh, violent cough, great depression, temperature 103 to 106, the glands of the lower jaw enlarged, hot and painful, discharge from nostrils at first watery, gradually changing to pus. Eyes inflamed and running, the limbs very often swollen and painful to the touch. Generally speaking a horse suffers only once with Distemper, but sometimes it occurs twice or even three times in the same animal.

Treatment—Immediate isolation, well ventilated but not a drafty box stall, light warm clothing, apply with friction to throat and glands Dr. Cawsey's "Red Anodyne Liniment," steam the nostrils with hot water, adding a tablespoonful of Dr. Cawsey's "Aseptosol" to one pailful. Give one ounce of Dr. Cawsey's "Distemper and Cough Specific." Give frequently small quantities of good quality oats and bran and expose patient to warm sunshine at every opportunity. Grass, if in season, will be found of great benefit. This disease runs a course of from two to three weeks, but it is very liable to lead to other more serious complications, such as Infectious Pneumonia. Great care should be taken and every precaution used to prevent such, and Dr. Cawsey's "Convalescent Powder" should be fed along with the regular rations for one month after apparent recovery.

PINK EYE

This disease can also be termed as another form of Distemper or Influenza, and differs mainly from the fact that in this condition the eyes are inflamed, swollen and weep copiously, the legs swollen, doughy, hot and painful to the touch.

The treatment is the same as in Distemper except the legs should under no circumstances be bandaged or any harsh liniment applied, but should be bathed gently and liberally with Dr. Cawsey's "Astringol" twice daily.

STRANGLES

This can readily be classified as a more serious form of Distemper, and is distinguished from the same by the fact that in this the glands become swollen, form abscesses, and either break or should be lanced, and the most frequent disease resulting from Strangles is Blood Poisoning or technically speaking "Purpura Haemorrhagica," which is a very serious condition and mostly proves fatal. The symptoms are almost identical with those of Distemper and should be treated the same except the glands should be plentifully bathed with quantities of hot water, always including Dr. Cawsey's "Aseptosol."

BASTARD OF IRREGULAR STRANGLES

This is a form of Distemper whereby pus formed in certain glands, is picked up by the circulation and carried to some other gland or glands where it causes abscesses which either should be lanced or break automatically.

The most common locations of these abscesses is the udder sheath and shoulder, which condition may

occur weeks or months after recovery from what appears to be an ordinary case of Distemper or Strangles.

The treatment consists of good tonics such as Dr. Cawsey's "Convalescent Powder" given in feed and after the abscess is opened, washed and syringed out twice daily with "Aseptosol" one tablespoonful to two quarts of warm water, after which bathe the wound with Dr. Cawsey's "Astringol." Continue to do this until the wound is entirely healed and any abscess occurring at a later date should be treated in the same manner.

PETECHIAL FEVER—BLOOD POISONING—PURPURA HEMORRHAGICA

An escape of blood through weakened vessel walls into the surrounding tissues.

Causes—Invariably follows some infectious disease. Some authorities claim it may arise from injury or unclean surgery, but this theory is very difficult to prove. In the majority of cases it occurs after an attack of Strangles.

Symptoms—Sudden appearance of a rash of varying sizes all over the skin surface usually being very itchy, well defined abrupt swellings of the knees or hocks or both, swellings of the same nature along the abdomen, and the head may swell to such proportions as to resemble the head of a hippopotamus. Never find only one knee or one hock swollen, always both knees, both hocks or all four swollen at the same time, which may alternate very rapidly. These swellings are doughy and painful to the touch and may exude a watery blood. The eyelids are swollen. The temperature may be 103 or it may be normal or slightly below, bowels inclined to be sloppy, appetite is very erratic, urine is usually

highly colored, reluctant to move and will stand fixed in one position for days, pulse fast and seems small. This disease runs a very irregular course and may exist for days or may entirely disappear in a few hours, the latter of which is a very unfavorable course. Always serious and the percentage of mortality is high.

Treatment—Place in a cool, well ventilated stall, give one ounce of Dr. Cawsey's "Fever Tonic" every three hours, nourishing, tempting diet, bathe the swellings for hours at a time with hot water and Dr. Cawsey's "Aseptosol." If the head is swollen it should not be allowed to hang or be held low, but should be elevated by being suspended at a normal level and bathed the same as the limbs.

The course runs a period of eight to ten days, during which time this treatment should be continued, and as an after treatment gentle, daily exercise, fed the regular diet, combining one tablespoonful of Dr. Cawsey's "Convalescent Powder" with same.

THE DISEASES OF THE HEAD AND NECK

The diseases of the head are mostly confined to the brain, or its surrounding membranes; but a number of diseases, although entirely foreign to the head itself, find the face a convenient place in which to give expression of their existence.

Lips—Any abnormal conditions existing in the lips are mostly due to injury and when wounds are the cause of anxiety they should be treated as advised in "Wound Treatment" enumerated under that heading.

STOMATITIS

Inflammation of the membranes covering the tongue and lining the cheeks and mouth cavity.

Causes—Injuries from bits, frozen grass and roots, coarse rough fodder, shedding and cutting of teeth, and extension of inflammation from stomach, and accompanies many diseases where loss of appetite is present, including an accumulation of decomposed tissue.

Symptoms—Loss of appetite, lips elevated, swollen lips and cheeks, drulling of froth mixed with blood and sometimes pus, bad odor of breath, temperature 102 to 104, tendency to constipation.

Treatment—Comfortable surroundings, soft feed, bran mashes, grass, if in season. Wash the mouth thoroughly with Dr. Cawsey's "Aseptosol." Dose: One tablespoonful to two quarts of warm water. Syringe liberaly with Dr. Cawsey's "Astringol" three times daily. Treat constitutionally with one tablespoonful of Dr. Cawsey's "Fever Tonic Specific" four times daily.

Upon return of appetite give one tablespoonful of Dr. Cawsey's "Convalescent Powders" in damp feed at each meal for two weeks.

Recovery usually occurs in from eight to fourteen days.

DISEASES OF THE TEETH

As the teeth of the horse are so arranged as to wear unevenly, it is quite necessary that the projecting points should be filed level with the wearing surfaces of each other at least once a year, thus providing an even grinding table so that all nutriment contained in the feed will be extracted.

Long, uneven teeth will lacerate the gums, causing pain and inconvenience, resulting in inefficiency and loss of vitality. A badly ulcerated tooth can always be recognised by a distinctly bad odor peculiar to decaying bone, and the horse, when drinking cold water, will hold his head on one side, being that opposite to the affected side, a foul odor of the breath and a thick pus discharge from one and sometimes both nostrils.

Treatment—This being surgical a Veterinarian should be called to extract the offending tooth, but as food will accumulate in the resulting cavity it should be washed out daily with one tablespoonful of Dr. Cawsey's "Aseptosol" added to two quarts of warm water.

LAMPAS

This condition occurs in young horses generally during teething and is an inflammation of the gums and a portion of the roof of the mouth, sometimes being so painful as to cause a refusal to eat. The practice of cutting and burning the swollen membrane is bad medicine and should be discouraged as it is often followed by more serious conditions.

The patient should be fed bran or vegetable mashes and given one tablespoonful of Dr. Cawsey's "Convalescent Powder" in the same for one week when the so-called Lampas will have disappeared.

INFLAMMATION OF THE BRAIN

Causes—Extremely fat animals are always predisposed, heavy loading, pressure, due to injuries to the skull; parasites in the circulation becoming lodged in the smaller blood vessels of the brain. Exposure to a continuous high temperature, but it usually follows some other disease, such as Congestion of the Brain, and infectious aliments as Distemper.

Symptoms—These vary greatly, sometimes making a very sudden appearance, at other times appearing slowly. The most serious cases being those of the first variety.

In slow developed cases the head hangs in the stable, the patient being sluggish in movements and eating, the mouth being noticeably full of food.

The eyelids are drooped, slight elevation of the temperature and if approached suddenly the patient will show great excitement; when being turned in a circle exhibits noticeably unsteady movements, difficult to lead and generally sluggish.

Steps peculiarly high, walks with a pace, and in marked cases will push the head against the wall of the stall, and stand for hours in the one position.

As the disease advances lies down and occasionally struggles, loud, difficult breathing, facial paralysis, lips and ears hanging.

Course—Sometimes this disease runs a course of twenty-four hours very rapidly, but in other cases extends over weeks. At times it becomes necessary to destroy the patient from lingering symptoms.

Treatment—Elevate head and keep cold water application to the same, warm clothing, brisk hand rubbing of limbs and bandages applied to same. Give one of Dr. Cawsey's "Cathartic Pills," tepid

drinking water, bran mashes adding one tablespoonful of Dr. Cawsey's "Convalescent Powder" at each meal. After recovery blister top of head with Dr. Cawsey's "Precipitol" to promote absorption and prevent a second attack, as this generally follows. Turn out to grass for a month or two.

HYDROCEPHALIS

Water on the brain. Chronic Dropsy. Dummy.

Causes—Sometimes hereditary, but usually follows inflammation of the brain.

Symptoms—Unsteady, irregular gait, stupid expression of the face and eyes, false vision, shying at imaginary objects, appears awkward when eating, dung retained in rectum indefinitely, always in good flesh, slow in movements, will take about twenty minutes to drink. Very difficult to back but are great draft horses, always wanting to go ahead, stands hunched up, feet close together when in harness, and head will remain in any position you pull it.

Treatment—Is useless and considered an unsoundness, thus beware of horse dealers by becoming familiar with symptoms.

BLIND STAGGERS

This condition may be caused from brain lesions or from derangement of the stomach.

The cause in the former is usually due to a blood clot floating in the vessels and being caught or lodged in a vessel smaller than itself, thus producing pressure on a vital organ.

In this case the attack comes on very suddenly, the animal staggers, seems blind, rears, plunges, and falls, goes into convulsions, appears crazy, or may lie perfectly still and in a few minutes will rise and go about his business apparently none the worse.

There is nothing to do but allow nature to take its course and by becoming familiar with the individual, one can usually know when to expect the next attack, and has a few moments' warning to provide for the emergency. The moment the first indication of a recurrence is noticed the patient should be immediately stopped and allowed to remain still for the rest of that day, which will in all probability be sufficient in avoiding an attack. As there is always danger of this horse taking staggers and as the warning is not adequate, such an individual is never safe and may cause injuries to his driver or some other member of the community, and really should be destroyed unless it happens to be a mare, in which case she should be kept for breeding purposes only.

When the stomach is the cause of Staggers the condition is not so serious and can be corrected by proper treatment. In this case the animal usually seems to be sluggish for some hours before an attack, suddenly showing great weakness, sways, staggers, becomes giddy and falls, usually froths at the mouth,

may or may not have convulsions, and if so, they are more modified than where the brain is the cause. The attack is of short duration, the patient will rise almost immediately after falling, but may require support for a time as there is always a dizziness which may cause the animal to again fall.

As the direct cause is probably due to indigestion or worms, the patient should be treated for the same and a long period of idleness will bring about complete recovery.

POLL EVIL

An abscess formation on top of the head, sometimes involving the bones of the same.

Causes—Always an injury from bumping the ceiling, doorsills or badly fitting halter or bridle. Occurs frequently from halter breaking, fractious colts, and halter pullers are very susceptible.

Symptoms—Head held stiff, swollen hot and painful when felt, sometimes causing such pain as to cease eating, abscess breaks, discharging a watery blood mixed with pus.

Treatment—Place in box stall, remove headstall and apply hot fomentations to swelling, adding two tablespoonsful of Dr. Cawsey's "Aseptosol" to the hot water. Give one of Dr. Cawsey's "Cathartic Pills" and soft feed during idleness. When abscess breaks syringe the cavity thoroughly with one tablespoonful of Dr. Cawsey's "Aseptosol" added to two quarts of warm water, followed by injecting two ounces of Dr. Cawsey's "Astringol" into the open wound. As the constitution now needs toning, use continually Dr. Cawsey's "Convalescent Powder" in usual diet.

DISEASE OF THE EYE

The eye is a very important, as well as a very sensitive organ, and the prominence of its location makes it susceptible to many injuries, which ordinarily should be treated as advised in wound treatment.

OPHTHALMIA, SIMPLE AND PERIODIC

Simple Ophthalmia—Is of little importance and generally makes a satisfactory recovery.

Causes—Nearly always due to injury or the presence of foreign matter in the eye or eye-lids.

Symptoms—Inflamed eye-lids, closing of same, weeping, especially when exposed to a bright light, slight elevation of temperature, may be temporarily off feed. If due to foreign matter, tendency to opacity of the cornea.

Treatment—Locate the cause, remove same carefully by syringing slowly into eye some luke warm water or milk. Place in a darkened stall, apply woolen bandages, dipped in cold solution of equal parts of water and Dr. Cawsey's "Astringol" and change same several times a day during treatment. Give one tablespoonful of Dr. Cawsey's "Convalescent Powder" in damp feed at each meal. Recovery should be complete in about seven days.

PERIODIC OPHTHALMIA—MOONBLINDERS

An acute inflammation of the tissues comprising the eye structures, gradually becoming chronic, finally resulting in blindness.

Causes—The cause of this malady is not well understood, but the theory that it is due to an unknown bacillus is accused for its development.

Symptoms—Swollen, red, inflamed eye-lids, dry-

ness, first, followed by a copious weeping, both eyes being affected at the same time, presenting identical symptoms. Great pain when exposed to bright light. Loss of appetite. Temperature 102 to 105. Chills frequently in evidence. Runs a course of one to two weeks, when there is apparently complete recovery, but there is always a recurrence of the same condition, becoming greater in frequency, finally resulting in total blindness.

Treatment—Darkened stall, woollen bandages, saturated in equal parts of cold water and Dr. Cawsey's "Astringol" applied to the eyes and changed very frequently during its course.

Give one tablespoonful of Dr. Cawsey's "Fever Tonic" four times daily. Recovery occurs in from ten to fourteen days, but be always sure of a return, of the same condition periodically.

GOITRE OR STRUMA

An enlargement of the Thyroid Gland, which is situated immediately under the throat and to the side of the wind-pipe. This condition does not occur frequently in the horse, but is common in man and dogs.

Causes—The actual causes of goitre has never been determined. It is seen frequently in certain localities and the theory is that it is produced by either an abundance of certain minerals in the soil or the lack of others. Heredity is claimed to be an important factor to its appearance, as certain families seem to be affected through generations.

Treatment—This is not attended by very encouraging results, but the object of medication is to promote absorption. Iodine used in various forms is about the only known remedy, although the using of same is attended by a wide variety of results, as a last resort and as a means of saving a life surgery becomes a necessity.

FISTULOUS WITHERS

An abscess of the withers produced by injury, from ill-fitting collars, saddles, etc.

Symptoms—Flinches when collar or saddle is being put on. When felt with the hand shows great tenderness, swollen, hot and painful. If abscess breaks, discharges watery blood mixed with pus.

Treatment—First remove the cause, put one-third cupful of Dr. Cawsey's "Aseptosal" into a pailful of hot water, and bathe parts freely.

If the abscess breaks wash thoroughly with the same medicine and inject into the wound a liberal quantity of Dr. Cawsey's "Astringol" twice daily. The animal should not be worked for at least a month after the wound has entirely healed.

AZOTURIA

This disease is also called Black-water, and in some localities it is known by the name of Spinal Meningitis, and is called such by the horsemen, and contrary to most beliefs, has no relation to diseases of the kidneys, but is a muscular affection.

Causes—It occurs more frequently in the city than it does in the rural localities, and the factors necessary for its development are as follows: A horse accustomed to regular exercise or work, fat and heavily fed, is suddenly laid up, confined to the stable for one to three days during which time the feed is not reduced, and again put to work at the ordinary duties, cold, rainy weather being preferable. It rarely occurs after one day's rest, three days being the usual time favorable to its appearance, and five or more days idleness apparently causes the patient to be immune to an attack.

The theory is, that when a fat animal is fed heavily and worked regularly the nutritious elements of the diet is used as nature requires, thus causing no unusual condition, but when the same class of animal is suddenly made idle and fed as when worked, the nutritious element is not all required, in which case the system becomes surcharged with it, and upon putting the subject to work, the surplus quantity is thrown on the system at once, with a consequent derangement of the normal functions.

Symptoms—The first thing noticed, will be a lameness of one hind leg, similar to having a nail in the foot, this may happen immediately after leaving the stable, or it may occur after a day's work. Although the hind limbs are the common ones affected, it may, and does occur in the front limbs also. The larger muscles are the ones most commonly attacked, being those of the loins, thigh and shoulder. The driver generally examines the foot, expecting to find a nail or stone causing the lameness, but upon neither being found, he attempts to resume his journey, when the lameness becomes markedly worse, the patient hangs back in the harness, sweats profusely, seems to get stiff all over, stumbles and finally he falls down, and is unable to rise, becomes restless, beats his head on the ground and makes violent attempts to rise. The pain is severe and he will sometimes cry out with it. Constipation and the urine is heavy and of a dark coffee color. The patient very often shows colicky pains during the course of this disease.

Treatment—Is very difficult and unsatisfactory and there is a large per cent. of mortality. Large, well-bedded box stall allowing the patient to lie flat. (Under no circumstances use slings). The urine should be drawn with a catheter. Apply a

liberal quantity of Dr. Cawsey's "Red Anodyne Liniment" over the loins and blankets dipped in hot water, wrung dry and placed over the same surface and changed every ten minutes. Give one of Dr. Cawsey's "Cathartic Pills" and to relieve colicky pains, half bottle of Dr. Cawsey's "Colic Specific No. 1." Give one ounce of Dr. Cawsey's "Fever Tonic" every three hours. Turn the patient over every two hours, continuing same for three days. On the third day patient should be assisted to rise and if attended with success, it is a very favorable sign even though the standing posture is of only a few minutes' duration. This should be repeated several times, but if the patient is unable to rise with assistance on the third day, the case should be viewed with alarm, and the possibilities of recovery are slim. If, however, the patient is able to stand, give one tablespoonful of Dr. Cawsey's "Convalescent Powder" in half quantity regular feed. Turn out to pasture for one month and in future use precaution, by not over-feeding and insisting upon regular exercise.

RHEUMATISM

True Rheumatism is due to exposure to the action of cold, inclement weather, causing a surplus quantity of certain acids to be formed in the circulation and tissues of the body generally, and can always be recognised by the tendency of the pain and lameness to keep shifting from muscle to muscle or limb to limb, as the case may be. It is more common in the aged patients than in the young and when the former are affected, assumes a chronic character, but in the latter, the opposite is true, being nearly always acute. Long confinements in the stable, overfed, overfat horses are very susceptible to an attack at any time or season of the year.

Treatment—Warm blanket. Give one of Dr. Cawsey's "Cathartic Pills," apply with friction, a liberal quantity of Dr. Cawsey's "Red Anodyne Liniment" morning and night and one tablespoonful of Dr. Cawsey's "Convalescent Powder" in regular feed. Blistering is not indicated, and after, if possible, turn out to pasture to complete recovery and avoid a return of this painful, troublesome disease.

FALSE RHEUMATISM—JOINT ILL NAVEL ILL

An infection through the Navel at time of birth, locating in the larger joints, hence a disease of very young animals.

Symptoms—The hock is generally the first joint affected, but no joint is exempt. The sooner after birth this condition sets in, the more acute it is and the greater the fatality. The joint is swollen, hot and painful, the patient often being unable to rise or stand up by itself. The swelling usually shifting from joint to joint frequently and rapidly. After a short time a constant dribbling from the Navel is

noticed, the temperature is very high, great difficulty in inducing the patient to nurse and shows general pain, weakness and depression. Usually has a diarrhoea of an unnatural color.

The violence of the attack depends largely upon the weather, as certain seasons are favorable to the strength of the germ, responsible for the disease.

Treatment—Prevention is the all important remedy in this disease, by always preparing the mother. Thoroughly disinfect the Vulva, tail and hind quarters. Place in a clean, well disinfected and ventilated stall, all old bedding and litter should be removed and replaced with a plentiful supply of fresh, sweet bedding, and as soon as the colt is born the cord should be washed with Dr. Cawsey's "Aseptosol", tied tightly with a strong string, dipped in the same solution, and cut four or six inches long, and have pine tar plastered over the opening.

It is very difficult to medicate the young, whether human or beast, but the mother should be milked, and this product fed to the colt forcibly, but if it shows an inclination to nurse, it is best to support and allow it to do so. Bathe joints with hot water and apply Dr. Cawsey's "Red Anodyne Liniment" to the affected joints twice daily. Certain serums injected into the patient hypodermically are used with a varying amount of success, and in any case a recovery from this disease is rare, rather than of frequent occurrence. If pus forms in the joints the patient should be destroyed.

PERITONITIS

An inflammation of the membrane lining the abdominal cavity and covering the bowels.

Causes—Infection from wound such as tapping for flatulancy and after castration is among the commonest causes. In the female, following a ruptured womb, cold drafts, etc., and is sometimes complicated with inflammation of the bowels.

Symptoms—May at first appear colicky, but in a short while the patient stands fixed exhibiting great pain at the slightest movement. The abdomen is distended, perspires freely, temperature 104 to 106, pulse rapid and wiry, breathes with a gasp or sigh, shows extreme tenderness when the abdomen is touched with pressure, and by placing the ear to the abdominal walls a sound like rustling or tearing paper is distinctly heard. There is always an expression of fear in the face which is typical of this disease.

Treatment—The mortality in infectious peritonitis is nearly one hundred per cent. and in most cases all that one can do is to make the patient as comfortable as possible until death, which may happen in a few hours or a few days, but where it is due to cold the results of medication are usually good. In the early stages give half bottle of Dr. Cawsey's "Colic Specific No. 1." Apply with friction a liberal quantity of Dr. Cawsey's "Red Anodyne Liniment" to the whole surface of the abdomen and every three hours give one ounce of Dr. Cawsey's "Fever Tonic"', light, warm blanket, and bandages to the limbs. Do not encourage the patient eating until the third day, when mashes in moderate quantities are of benefit, in which should be mixed one tablespoonful of Dr. Cawsey's "Convalescent Powder." This to be continued along with gentle exercise for one month.

LICE

These parasites are found infesting the whole body, particularly numerous in the mane and at the root of the tail. The favorite season is during the winter months, the animal on which they are found being always thin and emaciated, is constantly scratching, and the poor beast knows no peace until they are eradicated.

Treatment—Where the hair is long, and the patient can be stabled, it is always best to have him clipped all over, and given a thorough bath with warm water, adding two tablespoonfus of Dr. Cawsey's "Aseptosol" to one pailful of water. Blanket and keep in a warm stable. As this first application will positively destroy all the living vermin, it is necessary to repeat the treatment in order to destroy the new crop of young lice, which have been hatched in the interval. This treatment should take place five days after the first one and again repeated the third time to insure a complete destruction and avoid all possibilities of a recurrence.

The stable and stall should also be sprinkled with the same solution with which the patient has been washed.

Owing to the run-down condition of the animal thus attacked, good quality of hay, oats and bran should be fed, and place in each feed, one tablespoonful of Dr. Cawsey's "Convalescent Powder," this to be continued for one month.

PHARYNGITIS—SORE THROAT

An inflamation of the mechanism at the entrance of the tube leading to the stomach. This may be infectious,. in which case several horses in the same stable will be affected at the same time or it may be due to cold, exposure to drafts, etc., in which case possibly only one horse will be affected.

Always a hard, explosive cough, especially when eating, great difficulty in swallowing both solids and liquids, being swallowed in gulps and the food and water frequently coming back through the nostrils. The temperature runs from 103 to 106, pulse is full and rapid and the respiration labored. At first there is a watery discharge from the nostrils, gradually becoming pus.

Treatment—Blister the throat with Dr. Cawsey's "Precipitol", give one ounce of Dr. Cawsey's "Fever Tonic" with syringe four times daily, steam the nostrils with one tablespoonful of Dr. Cawsey's "Asep-tosol" added to one pailful of hot water twice daily for one hour. Feed bran mashes or grass, if in season. Recovery should be complete in two weeks. Now give regular rations and add one tablespoonful of Dr. Cawsey's "Convalescent Powder" at each meal, this to be continued for one month.

GASTRITIS

Inflammation of the stomach or gas in the stomach.

The horse's stomach is very small compared to his weight, and as very little digestion occurs in the same, fortunately it is very seldom that any disease affects that organ, but as the horse is unable to vomit, and thus rid its stomach of irritating masses of semi-digested foodstuffs, Gastritis can always be considered a serious condition and very difficult to treat.

It is usually caused by poor quality food or stagnant drinking water, horses of a glutenous nature being the ones most commonly attacked. Starved animals being suddenly fed large quantities and ulcers, although hard to recognise, may cause an acute attack of Gastritis.

Symptoms—Resemble very closely those of indigestion, but in this there is more frequent belching of gas of a foul odor, from the mouth, particularly immediately after eating, food and water may dribble from the nostrils and attempts to vomit is often noticed, and if the food comes through the nostrils in large quantities the condition is very serious, as it indicates a ruptured stomach, in which case the patient dies in great distress.

Treatment—Consists of giving the stomach absolute rest, feeding the patient very small quantities several times a day of the best quality of diet. This is best fed boiled, place in each feed one tablespoonful of Dr. Cawsey's "Convalescent Powder," keep the bowels open by giving light doses of Raw Linseed Oil two or three times weekly. Continue this treatment for a month and regulate the amount and quality of feed always after recovery.

COLICS

The term colic defines no particular disease but is generally understood to relate to a derangement of the intestinal tract, although the kidneys and womb when diseased, frequently are responsible for symptoms of colic.

Intestinal Colic, refers to a derangement of the bowels any place throughout their course and when one considers their complicated arrangement, the hundreds of feet involved, the importance of the functions they perform, the abuses to which they are exposed and the horizontal position of our patients, it is no wonder that colic is positively the most frequent of all diseases occuring in the horse, being responsible for 40 per cent. of all diseases and 13 per cent. of all deaths.

The varieties of colic are numerous but to confine ourselves to the most common and those responding to treatment explains why I am going to deal with the following only: Spasmodic, Flatulent or Wind, Impaction or Constipation Colic.

Spasmodic Colic—Is a spasmodic contraction of the small bowel at some point or points along its course.

Causes—Cold drafts, overfeed, starvation, indigestible food stuffs, irregular feeding and some horses are predisposed to this malady due no doubt to a chronic indigestion.

Symptoms—Appears suddenly, attempts to lie down, rolls, rises immediately, paws, refers to side and stomach with the head, perspires, pulse rapid, with little or no elevation of temperature. These symptoms appear at intervals of a few minutes and if no complications arise, recovery occurs in a half to four hours.

Treatment—Comfortable, roomy box stall or yard plentifully bedded, allow patient its freedom,

do not lead or move rapidly. The rolling is harmless and greatly relieves the pain. Give half a bottle of Dr. Cawsey's "Colic Specific No. 1" and if not relieved in one hour, repeat. Do not feed or water until six to ten hours after recovery and then only a moderate quantity, and allow patient to remain idle for at least twenty-four hours and give one tablespoonful of Dr. Cawsey's "Convalescent Powder" in regular feed for one week.

Flatulent Colic—Is the formation of gas in the large intestines due to a fermentation of food stuffs.

Causes—Green, immature and musty fodder, sudden change from one variety of feed to another, indigestion and, in fact, the same conditions that produce Spasmodic may cause Flatulent Colic.

Symptoms—Appears less suddenly than Spasmodic, distension of abdomen, kicks at stomach, paws, perspires, respiration and pulse rapid, temperature about normal. Is inclined to walk around stall and noticeably careful of violent movements. If patient lies down will remain so for quite a long time, and a moderate diarrhoea may or may not be present.

Treatment—Large, well bedded quarters, freedom, do not force to walk or run, and give at one dose half a bottle of Dr. Cawsey's "Colic Specific No. 1" and the same quantity of "Colic Specific No. 2" and if not relieved in two hours, repeat the dose of No. 1. Give no feed for twenty-four hours. After recovery give one tablespoonful of Dr. Cawsey's "Convalecent Powder" in regular feed for one week.

Impaction or Constipation Colic—Impaction of food stuffs in the large intestines, sometimes involving the stomach.

Causes—Heavy feeders of a sluggish temperament are very liable, insufficient drinking water,

coarse, indigestible fodder, or it may be secondary to Flatulent Colic, due to the pressure resulting from gases, insufficient exercise is nearly always an important factor in its development, and in every case the diet is directly responsible.

Symptoms—Slow in its appearance, symptoms are not distinctly defined, refers to abdomen with the head, makes many attempts to lie down before doing so and remains in one position for a long time. Evidence of persistent pain which will often endure for three days before showing relief, particularly careful of violent or abrupt movements, never throwing self as in the Spasmodic form and a contiuation of slow, sluggish symptoms until relieved. Will find no evidence of fresh manure in the stall or stable where patient has been standing. If the stomach is the affected organ the patient will belch gas from the mouth and maybe semi-digested food will be discharged from the nostrils, will sit up on the hocks like a dog, this act relieving the pressure by allowing the stomach to fall back on itself. When this is the case it must always be viewed with great alarm as it is extremely difficult to relieve an impaction when the stomach is the seat of the trouble. If the large bowel is impacted the patient will assume a kneeling posture with the hind quarters elevated. There is rarely any gas or food belched from the mouth or nostrils and the condition can be viewed with much less alarm than when the stomach is affected.

Treatment—Roomy, well bedded stall, encourage drinking by placing a pail of fresh, cool water within convenient reach of the patient at all times, blanket if cold and give the entire contents of one bottle of Dr. Cawsey's "Colic Specific No. 2" at one dose and a quarter of a bottle of the No. 1 every three

hours until relieved. Give injections of warm water and soap suds, repeating every six hours. If there is no evidence of the bowels moving in eighteen hours, the contents of another bottle of Dr. Cawsey's Colic Specific No. 2" should be given, continuing No. 1 as directed. Give no feed for two days and take the chill off all drinking water, allow patient to rest for one week and give one tablespoonful of Dr. Cawsey's "Convalescent Powder" on tongue 3 times daily for one week. Feed gradual and moderate quantities of good quality, easily digestable food stuffs after recovery is complete.

INFLAMMATION OF THE BOWELS
ENTERITIS

Common to all ages, especially prevalent in adult patients.

Causes—Exposure to cold, drinking cold water while warm, improper feeding and management. It may also occur from working a colic patient too soon after an attack.

Symptoms—Sudden in appearance, very acute, pains, may occur in the stable or on the road. Paws, throws himself violently and continuously, has no regard for himself whatever, pulse 70 to 90, very wiry and small, temperature from 105 to 107, gradually increasing diarrhoea, limbs are cold. Peculiar evidence of fear from the first, facial expression denotes the same. Always suffers extreme pain until the last stages, when patient bloats, becomes quiet and dies in a few hours.

Treatment—Is of little value, as this condition is almost necessarily fatal. Medication consists of applying a liberal quantity of Dr. Cawsey's "Red Anodyne Liniment" to the entire abdomen, blanket, bandage limbs and give one bottle of Dr. Cawsey's "Colic Specific No. 1" at one dose and repeat same in two hours in an effort to control the intense pain. Blankets dipped in hot water and applied to the abdomen changing them every ten minutes throughout the course, will give great relief but as the percentage of recoveries is so small, scant hope can be held out for a favorable termination.

INDIGESTION—ACUTE AND CHRONIC

This condition is caused by an absence of certain acids and juices in the stomach and intestines which are very important in promoting digestion, and usually is complicated with, or results from, a derangement in some other organ.

Symptoms—The patient is known as a poor-doer, the hair is long, coarse and dry, the appetite is generally ravenous, drinks large quantities of water, gradually becomes pot-bellied, constantly passing flatus, perspires at the least exertion and is easily exhausted. May often present colicky symptoms.

Treatment—The cause should be looked for and treated accordingly. Usually the teeth should be levelled and evened, the diet regulated by measured quantities and fed regularly. Give the patient one of Dr. Cawsey's "Cathartic Pills" and feed mashes while the pill is operating, and afterwards give one tablespoonful of Dr. Cawsey's "Convalescent Powder" in the regular rations and continue for one month. A periodical run at pasture will give excellent results in promoting a permanent cure.

The acute is distinguished from the chronic form, in that in the acute the symptoms are more aggravated, colic being always very much in evidence and of frequent occurrence.

WORMS

These are usually of two varieties, the pin worms and the long round worms. When worms infest an animal in large quantities they are known to produce some very serious conditions. Their presence is recognised by the patient scratching the tail against the stall, attempting to rub their lips against hard objects, the upper lip being frequently turned up, the hair is coarse and long, and generally eats ravenously and the condition generally poor.

Treatment—Should consist of mixing one of Dr. Cawsey's "Worm Powders" in damp feed morning and evening for six days after which fast for twenty-four hours, then give one of Dr. Cawsey's "Cathartic Pills" during the time cathartic is operating feed bran mashes and take the chill off the drinking water.

DISEASES OF THE FEET AND LIMBS

SEEDY TOE

Death of the toe of the hoof, caused usually by toe clip of shoe.

Symptoms—Dry rot of hoof, pulverising like saw-dust, sometimes extending well up to the coronet. Very rarely lame as result.

Treatment—Cut away all seedy portions, soak foot for 3 hours a day in a pail of water to which has first been added a quarter of a cupful of Dr. Cawsey's "Aseptosol." Place foot in linseed poultice at night and blister around top of hoof with Dr. Cawsey's "Precipitol." Shoe carefully and put to work in about two weeks.

CORNS

A Corn is caused by a rupture of the sensitive internal structure or tissue of the foot down through, or nearly through the sole at the side of the frog, usually on the inside quarter.

Symptoms—Persistent lameness, stands on toe with the heel elevated, lies down a great deal, examination and pressure on the sole reveals tenderness and pain, the inflamed tender corn is usually very easily seen.

Treatment—Remove the shoe and pare the sole away from the edges of the corn to relieve any existing pressure. Wash the whole foot with one tablespoonful of Dr. Cawsey's "Aseptosol" added to one half pailful of warm water. Apply a linseed poultice to which has been added one tablespoonful of Dr. Cawsey's "Aseptosol." Continue this treatment until the lameness has entirely disappeared.

Before returning to work the patient should be shod with a broad web shoe, avoiding as far as it

is possible pressure on the sole, especially immediately in the vicinity of the corn.

This is best accomplished by not using heel nails in the quarter where the corn is located.

Quittor—An ulceration at the junction of the hair and hoof, either on the in or the outside quarter.

Treatment—Soak foot in tub of hot water with ¼ cupful of Dr. Cawsey's "Aseptosol" added to same daily. Poultice with linseed meal, adding one tablespoonful of Dr. Cawsey's "Aseptosol" to same. If ulcer breaks syringe into wound solution of Dr. Cawsey's "Aseptosol" 1 tablespoonful to ¼ gallon warm water, and follow by injecting into wound 1 ounce of Dr. Cawsey's "Astringol."

SAND, QUARTER AND TOE CRACK

These three conditions are all the same except in that they occupy different positions on the hoof.

Causes—Weak brittle or shell hoofs are liable to develop any of these blemishes which really should be considered an unsoundness. Often produced in draft horses from calking.

Symptoms—Hoof splits, the extension varying, frequently bleeding, dirt and sand enter setting up a painful inflammation, great lameness, sometimes with a growth of flesh protruding between the hoof cracks.

Treatment—Give comfortable stall plentifully bedded and encourage patient to lie down. Wash foot in a pail of hot water to which add Dr. Cawsey's "Aseptosol." Now apply a hot poultice of linseed meal mixed with one tablespoonful of Dr. Cawsey's "Aseptosol." Continue this treatment for three days then carefully pare edges of crack, leaving wide borders. Where flesh protrudes bathe freely with Dr. Cawsey's "Astringol" daily. Con-

tinue the poultices until lameness subsides and if worked or exercised place bandage over wound to avoid dirt entering. It may be necessary to blister with Dr. Cawsey's "Precipitol" around top of hoof to promote growth of the same.

FOUNDER

Inflammation of the sensitive membranes of the hoof.

Causes—Common to all horses especially the heavy type. Heavy, strong feet are predisposed owing to lack of elasticity, concussion, long drives when unprepared, faulty shoeing, digestive troubles, sudden changes of temperature, extension of inflammation or from an excessive diarrhoea.

Symptoms—The front feet are usually the only ones affected, rarely seen in all four, has excrutiating pain, stands in fixed position with the fore feet extended and the hind feet well up under body, difficult to move, lead or back. When walking lights on heel and rolls over to toe, improves as walked, fast breathing, temperature 102 to 105. Perspires loss of appetite, great thirst, abdomen tucked up may be constipated or have a diarrhoea. May persist in standing or lying down.

Treatment—Large, well bedded box stall, locate cause and treat accordingly. If the patient persists in standing, insist in lying him down. Give one pint of raw linseed oil and follow with one tablespoonful of Dr. Cawsey's "Fever Tonic" every three hours. Dip thick woollen swabs in cold water, adding Dr. Cawsey's "Aseptosol" to same and wrap the feet, this should be repeated every hour during the acute stage. Allow patient to drink freely and often. After second day force patient to rise several times a day. After six to eight days begins to show im-

provement, when gentle exercise should be given. Continue the administration of Dr. Cawsey's "Fever Tonic" and give one tablespoonful of Dr. Cawsey's "Convalescent Powder" in half quantities of damp feed for at least three weeks. In order to insure a complete recovery the animal should be turned out to pasture for a month, as there is always a danger of founder becoming chronic and one attack predisposes to another, which is usually permanent when treatment will be found almost useless.

NAVICULAR DISEASE

Inflammation of the Navicular Bone. This is a small bone placed between the foot proper and canon bone, helping to form the coffin joint, and owing to its location is heir to many injuries, causing one of the commonest lamenesses known.

Causes—Horses with upright, stilty pasterns and high pounding steppers are predisposed. Common to adults. Continual service on city pavements.

Symptoms—Marked pointing of foot, trails toes when backing, travels on toe barely touching ball to ground, trots with a short stubby gait, warms out of lameness considerably, but will recur after standing a while. Foot grows more concave and contracted muscles of chest and shoulder wither, lies down a great deal and may get very thin and weak.

Treatment—Balance feet properly, shoe with flat toe and quarter inch heel calks. Give one of Dr. Cawsey's "Cathartic Pills" and thoroughly blister with Dr. Cawsey's "Precipitol" give one tablespoonful of Dr. Cawsey's "Convalescent Powder" in each meal during course of treatment and it would be advisable to again blister hollow of heel in another three weeks. If this does not effect a cure the last resort is Nerving, which ordinarily is not advisable.

RING BONE

A bony enlargement occurring between the hoof and fetlock on one, two or all four feet.

Causes—May be hereditary or due to injuries of various kinds, nail punctures may cause extension of inflammation, resulting in Ring Bone.

Symptoms—Depends upon seat of Ring Bone, generally causes a mechanical interference with motion of the joint, slow development, may be permanently or periodically lame, which exercise may or may not aggravate, when walking will plant heel down first and roll over on to the toe, foot extended when idle, sides of foot fall in and looks like a hind foot generally.

Treatment—Rest, blister with Dr. Cawsey's "Precipitol" two or three times in a period of two months and turn to pasture. If the location is such as to cause a mechanical interference and the advice given fails to effect a cure, further treatment is of no avail.

SIDE BONES

A bony enlargement on either or both sides of the foot immediately above the hoof.

Causes—This is almost entirely confined to the heavy draft horse generally due to an inherited predisposition, bad, unbalanced shoeing and injuries of many kinds are also responsible.

Symptoms—Aggravated lameness, particularly on rough, uneven roads, plants foot down on unaffected side, when turning breaks over, foot extended, pain and enlargement recognised when felt.

Treatment—Depends largely upon the location, if high or low. The first variety responds readily to treatment, but the low usually causes a mechanical interference, in which case a permanent lame-

ness remains. Balance foot by proper shoeing complete rest and blister with Dr. Cawsey's "Precipitol" two or three times, turn out to grass for at least one month afterwards.

FETLOCK LAMENESS

Many infectious diseases locate in the fetlock joint, as well as many injuries produce this lameness.

Symptoms—Rarely ever any swelling, but a slight lameness may be recognised, walks with a stilty short stride, tendency to travel knuckled over, plants foot down flat, stumbles, wears toes off very abruptly, prefers to lie down, by flexing fetlock abruptly, shows pain.

Treatment—Old chronic cases are incurable, but the more recent ones should be blistered with Dr. Cawsey's "Precipitol" twice in two months and a run in the pasture for another month, when there should be a complete recovery.

WIND GALLS

A chronic weakness of a tendon sheath followed by a distension of same, in which the joint-oil accumulates, forming a doughy enlargement, usually located in the region of the ankles and knees.

Causes—It is common to race and coach horses from injuries, and draft horses from strains of overloading.

Symptoms—Very seldom causes a lameness, but is an eye-sore and really an unsoundness.

Treatment—Results are difficult to obtain, but by a thorough hand rubbing daily with Dr. Cawsey's

"Astringol" and the application of bandages afterwards, continued over a period of months a reduction of the enlargements can be looked for. If it is possible to rest the patient, it would be advisable to blister with Dr. Cawsey's "Precipitol" as this would complete the treatment.

SPLINTS

A bony enlargement below the knee when in front legs and below the hock when the hind legs are the seat, may be on either side of the leg, but generally occurs on the inside of the front leg.

Causes—Common in coach horses with a high action, heavy, big feet predispose, long toes and feet, blows and concussion upon long, hard roads are largely responsible for the development of splints.

Symptoms—Usually difficult to locate the lameness before the enlargement is established, stands normal in the stable, walks sound, but trots lame on a hard surface, faulty flexion of the knee, becomes aggravated with use and is better with rest, when the legs affected are felt shows pain and a doughy enlargement.

Treatment—A complete rest, properly shod, the shoes having flat toe plate with a slightly elevated heel, quarter inch calks. When this is done blister all around the leg with Dr. Cawsey's "Precipitol" and use Dr. Cawsey's "Healol Ointment" as an after treatment. If one treatment does not give absolute relief it will be necessary to repeat.

KNEE LAMENESS

An inflammation of the bones of the knee joint. As this joint is comprised of eight small bones, it will be readily seen that a lamenes here will be very complicated and very closely resembles a Spavin in the hock.

Causes—Young coach, hackney and race horses are very liable to this condition. Horses with heavy foreparts (upright pasterns) are subject to injuries that will produce a knee lameness.

Symptoms—Comes on slowly and is difficult to locate as no enlargement is visible, when standing holds affected leg in advance of the other with the knee bent, walks sound but trots lame. May warm out of the lameness and starts lame after standing, shortened stride, stilty rigid action, the harness appears to jump at every stride he makes. As soon as he is in the stable he will lie down, gets very thin and the pain is very severe in advanced stages particularly if handled roughly.

An enlargement of the knee may now appear at the front and inside usually low down, but if the enlargement is at the back of the knee, will have a permanent lameness and is really useless.

Treatment—Complete rest, bandages saturated in Dr. Cawsey's "Astringol" applied to affected parts for a week, changing them three times daily, follow this by blistering with Dr. Cawsey's "Precipitol" and use Dr. Cawsey's "Healol Ointment" freely afterwards until all scabs have disappeared. This treatment has given excellent results and is positively a scientific treatment.

SWEENEY OR SLIP-SHOULDER

A pronounced depression in the shoulder.

Causes—This is always due to some injury or lameness whereby the shoulder muscles are not used and as a result of such the muscles become small and wither. Bad fitting collars, slips and sprains are often the cause.

Treatment—Blister with Dr. Cawsey's "Precipitol"" over the point of the shoulder and include all the shoulder muscles. Exercise plays a very important part in a complete recovery and after the lameness has been cured, exercise should be insisted upon. This treatment will be found very efficient, but if necessary should be repeated. If in the stable the animal should be given one tablespoonful of Dr. Cawsey's "Convalescent Powder" in feed for one month, as this condition generally affects the constitution during the early stages particularly.

SHOULDER LAMENESS

Inflammation of the shoulder joint producing lameness.

Causes—Rheumatism, runaway accidents, bumping shoulder against objects.

Symptoms—Shoulder is hot and painful, muscles bulged out, when trotted leg will swing in a semicircle, the joint itself is held rigid.

Treatment—Bathe freely with hot water and apply briskly Dr. Cawsey's "Red Anodyne Liniment" twice daily. This may cure after one week's treatment, but if not, blister with Dr. Cawsey's "Precipitol" afterwards applying Dr. Cawsey's "Healol Ointment."

ELBOW JOINT

Rarely ever seen diseased except from injuries. Always violent and usually serious, lameness easily located. Elbow rigid and evident signs of the injury producing the same.

Capped Elbow or Shoe-Boil—Common to aged horses, results from some disease or lameness from navicular or knee lameness, from lying in an awkward position to relieve pain and pressure, bad shoeing is nearly always an important factor in its development.

Treatment—Bathe liberally with hot water, first adding Dr. Cawsey's "Aseptosol" to insure thorough disinfection and saturate the swelling with Dr. Cawsey's "Astringol." If it forms an abscess and bursts wash twice daily with the "Aseptosol" and inject into the open wound a liberal quantity of the "Astringol" and continue this line of treatment until the abscess is healed. The foot of the affected leg should be encased in a protective leather boot, especially constructed for such purpose. The use of Seatons and surgery as a last resort is never advisable, as there is always great difficulty in healing a wound in this location, which leaves an unsightly thickness as a result.

VARIOUS TYPES OF SPAVIN

Bone Spavin | Blood Spavin | Bog Spavin

SPAVIN

Is the name given to an enlargement on the hock joint and comprises three distinct varieties, viz.: Blood, Bog and Bone.

The first two can be considered an unsoundness, but in many cases cause very little inconvenience to the patient, but the latter is by far the most prevalent and is responsible for a great deal of anxiety, and in many cases results in converting a highly valuable horse into a permanently lame, worthless animal.

The hock-joint is a very complicated mechanism corresponding to the ankle of a man, its construction comprising six bones of various shapes, sizes and functions, but all of them play a very important part in the formation of the hock-joint proper. Besides the bones there are numerous tendons and ligaments as well as a quantity of synovia or joint-oil, the whole forming possibly the most complicated and important joint in the entire animal anatomy. The location of this important joint makes it liable to many injuries and it is no wonder that Spavins are of very frequent occurance, therefore, it is advisable to deal with each kind separately and at some length.

Blood Spavin—Is really a varicose vein, which is a dilation of the vessel wall in which a quantity of blood accumulates.

Causes—Ordinarily due to an inherited weakness, sometimes being noticeable at birth and in this case usually both legs are affected, it is also produced by slips, sprains and injuries of various kinds.

Symptoms—Cold, doughy enlargement low down

on the inside of the joint in the early stages lameness, which diminishes with exercise.

Treatment—Apply Dr. Cawsey's "Red Anodyne Liniment" twice daily, this to be rubbed well into the enlargement. It is not necessary to stop working the patient and if this treatment is continued for a month, the lameness will disappear, but the enlargement will still be in evidence, which no known medicine will entirely remove.

Bog Spavin—This is exactly the same condition as Wind Gall and is a doughy enlargement on either or both hocks of one or both legs.

Causes—This is in most cases an inherited weakness seen in horses of a coarse, washy conformation and when this is the cause both legs are affected. When due to injury usually only one leg is affected.

Symptoms—Lameness in one or both legs, at first the enlargement is hot and painful to the touch, gradually becoming less sensitive, resulting generally in a permanent blemish, which is easily injured, in which case the lameness will return to remain temporarily.

Treatment—During the acute stage complete rest and given a brisk hand rubbing twice or three times a day with Dr. Cawsey's "Astringol" and when the hot, painful period is passed, given a thorough blistering with Dr. Cawsey's "Precipitol" and gently exercise daily.

Bone Spavin—A bony enlargement or deposit on the hock-joint which may involve any individual group or all the bones comprising the hock-joints.

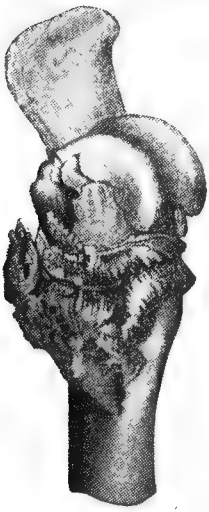
Causes—This, like the Blood and Bog Spavin, is mostly due to heredity, calf-hocked individuals

being especially predisposed to its development, but injuries through fast and reckless driving of young animals are very apt to result in this unsightly and serious blemish.

Symptoms—The high spavin is the most serious and the one which shows the most persistent and aggravated lameness, the low variety being by far the one from which there is the least anxiety and in which the lameness lessens with work. In the first, exercise generally aggravates lameness. Slow in development, lameness gradually becoming more marked, rests considerably on the toe and notice a slight breakdown when standing up straight. On backing out of the stall walks on the toe and snaps the heel to the ground with a slight give of the hock. Avoids flexing the hock as much as possible, the hip and fetlock joints compensating for lack of natural motion in the hock, when travelling. Lifting foot frontwards and as high as possible and flexing hock on itself holding in this position for a minute or two, letting foot down and starting suddenly will surely clinch the diagnosis. Patient will show extreme lameness travelling on toe and sometimes even carrying the limb for a dozen steps or more. Prefers to lie down a lot and if on affected side for a long time has difficulty in rising, when it may become necessary to roll him over and assist him to rise, becomes very thin, showing continual evidence of great pain.

Treatment—The so-called removal and absorption of Spavins is not possible and to claim that this can be done is the highest form of quackery. Firing and numerous operations have all proven in the majority of cases so treated, to be almost worthless of consideration or discussion, and when the growth is deep-seated or high very little, if any, relief can

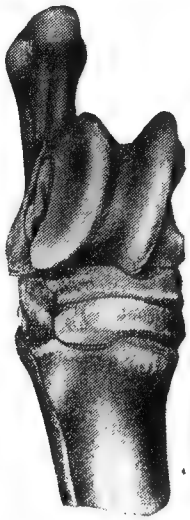
BONE SPAVIN



Spavin

Spavin

Cured Spavin



Sound Hock

be hoped for from any specific line of treatment, and the unfortunate animal can be considered valueless. However, the lameness may be modified and even cured entirely if in a favorable location, in which case the patient becomes serviceable and suffers no noticeable inconvenience. Complete rest is very essential, have the foot levelled and shod with an elevated heel, with half inch calks, the toe of the shoe should be flat. While the enlargement is still hot to the touch it should be liberally hand rubbed with Dr. Cawsey's "Astrinigol" two or three times a day and continued until all inflammation has subsided, then a thorough blistering with Dr. Cawsey's "Precipitol" and turned out to grass for a long period. Spavin can really be classified as an incurable disease, thus if one can be successful in removing the lameness we are satisfied and it is all that can be reasonably hoped for.

CURB

An enlargement of the tendon at the back of the hock.

Causes—Bow-shaped, calf-legged horses are very much predisposed to the development of Curb. Injuries of many kinds, suddenly being stopped while travelling at a fast clip is sometimes the cause.

Symptoms—The lameness in this condition is never very pronounced, in some cases not being noticeable at all. First there is a hot, painful, soft enlargement which gradually becomes firmer and less sensitive to the touch.

Treatment—In the first stages apply with friction Dr. Cawsey's "Red Anodyne Liniment" and if this does not cure lameness, blister with Dr. Cawsey's "Precipitol" and expect a complete recovery.

General Hints on the Diagnosis of Lameness

Whenever a horse is noticed to be going lame and unless the cause is very plainly evident, the first thing to do in all cases is to have the shoe removed and thoroughly examine the foot for some foreign matter, such as nails, snags, etc. Then each joint should be rigidly examined and tested in every way. The patient should be viewed first in the stable and made to move over, as very often the first step will be the only symptom shown. He should be walked and trotted on a hard surface toward and away from one, backed and rotated in a small circle, when finally by a process of elimination one is able to arrive at the correct conclusion which is of the utmost importance before it is possible to pursue an intelligent line of treatment.

GAUNITIS

Inflammation of the Stifle Joint. This joint corresponds to the knee of a man, thus it will be readily appreciated why any abnormal condition here can always be considered serious and viewed with alarm. But fortunately it is not at all common, occuring mostly in draft horses and rarely in the light harness or saddle horse.

Causes—Injuries, kicks and bruises, backing heavy loads is probably the most common cause.

Symptoms—Attempts to fix joint, shortened backward and frontward stride, marked limp and will carry limb if forced to trot fast, the hock is not flexed much but the fetlock is used freely, the toes are always worn, not necessary to have a swelling, seen in horses eight or nine years of age and older. Has a great tendency to become chronic.

Chronic Gaunitis—Looks generally bad, rough coat, tucked up appearance, usually both legs are

involved, poor appetite, back roached, constantly shifting feet, raising them alternately to the stomach, walks humped up and travels close to the ground, fore limbs always well under body to support weight. Tendency to lie down a great deal, great difficulty in rising.

Treatment—Bathe or spray with cold water for several hours each day for five days and after each bath, saturate the surface of joint with a liberal quantity of Dr. Cawsey's "Astringol". Now give a thorough blistering with Dr. Cawsey's "Precipitol" and turn out to grass for one month.

LUXATION OF THE PATELLA

The patella is a small triangular bone called the Stifle-bone, and is placed in a pulley-like groove, the lowest ridge or projection of which is on the outside of the leg and the highest on the inside, and normally this bone has a free upward and downward movement in the groove referred to.

It sometimes happens that through injury or an inherited weakness, that the stifle bone slips out of the groove and always to the outside, the ridge being lowest there. This happens mostly in young horses in which case it will slip in and out quite freely, causing apparently no inconvenience to the colt, but when it remains out symptoms similar to Gaunitis will be noticed.

Treatment—With the young animal a good blistering with Dr. Cawsey's "Preciptol" and forced, rapid exercise will effect a permanent cure, but where there is difficulty in replacing same the following procedure is pursued:

Put a collar on the patient, noose a rope around the hind fetlock, carry the free end between front legs and through collar, have an assistant pull on

rope, thus lifting the foot up to abdomen and by manipulating the stifle bone in an upward and inward manner, it will readily slip back in the groove.

As there is always a tendency to a recurrence, the rope should be adjusted so that the animal will find it impossible to extend the leg backwards. Patient should not be moved, the head tied high to prevent lying down and blistered with Dr. Cawsey's "Precipitol." This treatment will result in a permanent and speedy cure and the horse made as good as before.

HIP LAMENESS

Always marked by a swinging leg limp, the stride is noticeably shortened, the hip on the affected side is always the highest, difficult to back out of a stall, walks three cornered ways, foot is planted firm and flat on the surface, groove in abdomen always markedly prominent.

Treatment—Give one of Dr. Cawsey's "Cathartic Pills" complete rest and bran mashes until purging is finished. Rub briskly all over the hip with a liberal quantity of Dr. Cawsey's "Red Anodyne Liniment" for six days and then blister thoroughly with Dr. Cawsey's "Precipitol" and give moderate exercise, the horse should be ready to go to work in three weeks.

MUD FEVER

Is Eczema or an inflammation of the skin.

Causes—Coarse legged horses with long hair, when working in mud or wet ground are often affected. Sand and dirt causing an irritation in the hollows of the heel, washing the feet with irritating soap and warm water is often responsible, and in fact an irritation of some nature is usually the principal cause of Mud-Fever.

Symptoms—The disease appears suddenly, generally over night. There is a severe lameness in one or other limb, with inflamed swelling in the hollow of the heel, sometimes extending upwards to the knee or hock. Upon closer examination a brownish-red fluid is found to be oozing from the inflamed area, which gradually changes to pus, sometimes a large patch of skin drops off, leaving a flat, open wound.

Treatment—Thoroughly cleanse and disinfect the affected leg by washing with warm water, and castile soap, and adding one tablespoonful of Dr. Cawsey's "Aseptosol" to one pailful of same. The legs rubbed dry (clean sawdust is the best for this purpose) and Dr. Cawsey's "Dusting Powder" liberally sprinkled on the wound. When the wound appears to be dry and chapped, daily applications of Dr. Cawsey's "Healol Ointment" in combination with the dusting powder is necessary. After the first washing the limbs should be kept dry and clean and if the patient is kept in the stable and treated as advised, complete recovery should occur in from one to two weeks.

GREASE

This condition is always chronic and gradually becomes worse, in which one or all four limbs are affected. Starts in a small spot in the fetlock joint, the process gradually extending until the entire leg up to the knee or hock is involved. Pimples discharging an oily, foul-smelling fluid, appear on the surface, causing the hair to be soaked with it. These pimples increase in size, in some cases being as large as walnuts.

The disease extends to the hair follicles; the hairs are mostly shed, those remaining standing erect.

Grease is more frequent in the hind feet, particularly in hairy legged horses like Clydesdales.

Causes—The definite cause of Grease has never been decided, but most authorities claim its origin is due to a particular germ and the fact of being able to produce it in a healthy limb, by rubbing the diseased one against the former, gives support to their beliefs, though skin irritations, grazes and scratches are known to be a common cause.

Treatment—The best, quickest and most permanent results have been obtained, by first giving one of Dr. Cawsey's "Cathartic Pills" restricting the diet to bran, linseed, and green foods. Apply a large hot bran or linseed poultice, containing one tablespoonful of Dr. Cawsey's "Aseptosol" for twelve hours. After removing the poultice, wash the parts thoroughly with one tablespoonful of "Aseptosol" in one pail of warm water and carefully dried. The use of water afterwards is to be carefully avoided unless thick crusts form when they should be washed off. Cleansing is accomplished with a large handful of cotton waste vigorously applied, and the parts thoroughly saturated with Dr. Cawsey's "Astringol." Where the grape-like growths are in evidence they should be cauterised with a white hot iron and applying a dry dressing of Dr. Cawsey's "Dusting Powder" (sprinkled on a banadage) with a moderate pressure and renewed daily. The treatment should be continued until the last trace of discharge has disappeared; the lower part of the limb must then be kept as dry as possible and any relapse treated as already advised.

LYMPHANGITIS—WEED—MONDAY MORNING DISEASE

Usually occurs after a holiday or the enforced Sunday idleness, and the patient being given the same quantity of feed as when at work, particularly to patients that are accustomed to regular, active service, in which case it is far more acute.

Symptoms—Usually the left hind leg is the one affected but any, or all four, may be involved at the same time. Chill, uneasy, colicky symptoms, persists in pawing, until the swelling is well developed, which starts at the groin and gradually extends downward, becomes twice the normal size, hot and very painful, marked lameness. Temperature 105, may possibly develop abscesses.

Treatment—Blanket, give one of Dr. Cawsey's "Cathartic Pills" bran mashes for two or three days. One ounce of Dr. Cawsey's "Fever Tonic" four times daily. Bathe the entire limb wth hot water, adding Dr. Cawsey's "Aseptosol" to insure thorough disinfection, gently exercise daily and put to work in seven or eight days.

MELANOSIS OR BLACK TUMORS

This is strictly a disease of grey horses and is seen commonly at the root or stump of the tail, sheath, and in mares the udder, but they may occur in any location of the animal's body, the liver and lungs are very commonly the seat of this variety of tumor.

The theory is that a grey horse born black, turns grey, gradually becoming pure white. The black coloring matter of hair or pigment, is absorbed into the system and not being eliminated in proportion to the amount absorbed accumulates in certain parts, forming a tumor. When opened this tumor is found to contain a black, pasty substance which is the pigment referred to.

These tumors cause very little inconvenience unless they localise in a vital organ, and although they may be removed by surgery, the same condition will appear at some other point. No form of treatment is of any value.

HEAT STROKE

This condition occurs only during extremely hot weather or it may happen from a long continued exposure to an artificial heat. It ordinarily requires three days of intense heat during which time the patient continues to work actively.

The first indication is that the normal perspiration ceases, the hair becoming thoroughly dry and standing erect, the respiration is very rapid, the animal panting like a dog. If the exposure to the heat is still continued the animal staggers, falls and lies perfectly still, becomes unconscious, which may produce convulsions. The temperature in these cases will be extremely high, sometimes registering 112 or higher.

The first thing to do is to reduce the temperature as rapidly as possible and this is best accomplished by spraying the whole body and head with cold water continuously until the patient rises voluntarily when the temperature will possibly be about 107. Now remove to a cool stable and continue the cold water shower until the temperature has been reduced to at least 101 when he should be rubbed thoroughly dry, a light cool sheet adjusted to the body and given one ounce of Dr. Cawsey's "Fever Tonic" every three hours for one week when the patient can be returned to work.

As founder frequently follows Heat Stroke precaution should be taken by applying swabs to the feet and keeping continually saturated with cold water. One attack causes patient to be very liable to another, and this individual should have one or two cold baths daily during hot weather to prevent recurrence.

HEART DISEASES

These conditions are very difficult to recognise, being either confined to the membrane lining or the one covering the heart muscle itself, or it may be a functional disorder.

Endocarditis—Is an inflammation of the membrane lining the heart.

Pericarditis—Is an inflammation of the membrane covering the heart.

Myodarditis—Is an inflamation of the muscles of, or the heart tissues themselves.

Valvular Insufficiency—In which there is a functional derangement of the valves of the heart.

The causes of these various conditions are numerous, the chief ones being either of a nervous or sytemic origin, being complicated or following some other disease.

Symptoms—In the first three the symptoms are almost identical, the temperatures being about 104, the pulse being very erratic and intermittent, evidence of pain over the heart region and may be confused with Pleurisy except in heart lesions crepitant sound in the chest is absent where in Pleurisy this sound is very pronounced.

In valvular lesions there is normal temperature, the pulse is weak and intermittent, no pain over the heart region, the limbs and abdomen are swollen and dropsical, the animal suffers fainting spells which occur frequently, especially upon violent exertion.

The tendency of each one of these conditions is to become chronic and once firmly established is incurable.

Treatment—Is precaution and prevention by careful feeding and stabling and by never allowing the animal to be over-exerted or excited. Give one ounce of Dr. Cawsey's "Fever Tonic" twice daily, extending this treatment over a long period and repeated upon a return of the first symptom.

SWAMP FEVER

This disease can reasonably be compared with Pernicious Anemia and is a condition wherein the blood undergoes certain changes, gradually diminishing in quality, sometimes extending over long periods, finally resulting fatally.

Causes—The direct cause of Swamp Fever has never been determined, but that certain germs are responsible for its development is generally accepted by those making the most thorough investigation. It is most prevalent in swampy, marshy, low-lying countries, and hay fed from such districts is often accused as being the direct cause, although this accusation is difficult to prove as it has occurred frequently in horses which have never been away from an upland country or fed anything else but foodstuffs produced on high, dry land. It has been practically decided that it is not contagious, for healthy horses stabled with diseased ones for long periods do not exhibit any suspicious symptoms and usually complete a normal existence.

Symptoms—These are very varied practically every case presenting different features. The appearance of the patient is generally that of a poor-doer, the coat is long and dry-looking, gradually becoming thinner, perspires at the least exertion and is easily exhausted, the appetite is usually ravenous, both eating and drinking large quantities, the temperature is erratic, fluctuating between 97 and 105. Urinates and defecates large amounts, the membranes of the mouth and eyes become pale, general weakness, swaying and staggering when at work, finally becoming unable to accomplish any labor.

As this condition usually leads to various other diseases it is impossible to define any regular chain

of symptoms whereby Swamp Fever can be positively recognised by the layman.

The course may run from a few weeks to several months or even one or more years, depending entirely upon the appearance of complications which in nearly every case arise.

Treatment—This consists of complete rest and the feeding of regular measured amounts of the best qualities of well matured, nutritious food stuffs. Tonics are strongly advised and for this purpose one ounce of Dr. Cawsey's "Fever Tonic" given four times daily and one tablespoonful of Dr. Cawsey's "Convalescent Powder" given in the regular rations, will give the desired action, since both these remedies contain ingredients such as Iron, demanded by the impoverished blood supply of a patient suffering with Swamp Fever. By continuing this line of treatment over a period of months it is possible to produce an apparent recovery, but upon a relapse treatment is of little importance as eventually this disease ends fatally.

HEPATITIS—INFLAMMATION OF THE LIVER

This disease usually is complicated with, or it may follow other dseases, but the action of cold, drafts, etc., are also causes of its appearance. It can be recognised by the membranes of the mouth and eyes being distinctly jaundiced, yellow or greenish-yellow in color. May have slight colicky pains, tenderness of the abdomen, may or may not have a diarrhoea, temperature 103 to 105, patient is sluggish and reluctant to be moved.

Treatment—Give one of Dr. Cawsey's "Cathartic Pills", apply a liberal quantity of Dr. Cawsey's "Red Anodyne Liniment" to abdomen, blankets dipped in hot water and wrapped around the body, over which place a dry, warm blanket, bandage limbs, give one ounce of Dr. Cawsey's "Fever Tonic" every three hours for two weeks, after this feed moderate quantities and mix one tablespoonful of Dr. Cawsey's "Convalescent Powder" in same and continue for one month.

INFLAMMATION OF THE BLADDER CYSTITIS

This condition is caused by exposure to cold, overdosing with irritating drugs, stone in the bladder or it may be complicated with or extend from some other disease.

Symptoms—Makes frequent attempts to urinate, which is accomplished in small quantities, stands and walks straddled. Upon inserting the hand into rectum and putting pressure upon the organ tenderness is evidenced, temperature 102 to 105, appetite lost.

Treatment—Give drinking water in small quanti-

ties frequently, absolute rest, and one ounce of Dr. Cawsey's "Fever Tonic" every three hours until temperature becomes normal and followed with one tablespoonful of Dr. Cawsey's "Convalescent Powder" in regular rations for one month, will effect a cure.

INFLAMMATION OF THE KIDNEYS NEPHRITIS

This condition may be acute or chronic, the first usually terminates favorably and the latter form is almost necessarily fatal.

Causes—Usually follows a congestion, cold, irritating drugs, during the course of an infectious disease and tuberculosis are the most common causes.

Symptoms—Headache, nausea, excess flow of urine at frequent intervals, depression, respiration rapid, temperature nearly normal, walks with a straddling gait, trails toes, great tenderness over the loin region, reluctant to move.

Treatment—Encourage perspiration by placing patient in a warm stable plentifully blanketed, apply a quantity of Dr. Cawsey's "Red Anodyne Liniment" over the loins, give one ounce of Dr. Cawsey's "Fever Tonic" every three hours and feed bran mashes and give fresh, cool water in moderate amounts.

This disease runs a course of eight to fourteen days when there is either recovery or death. After recovery give the patient one tablespoonful of Dr. Cawsey's "Convalescent Powder" in regular rations. Turn out to grass for a month.

METRITIS

Inflammation of the womb.

This frequently follows a difficult case of foaling or it may be complicated with some other disease.

The organ is swollen and painful, discharging a black, putrid fluid, the appetite is lost, the pulse hard and fast, temperature may be as high as 107 and the patient is very reluctant to move.

Treatment—Thoroughly wash out the womb with one-half tablespoonful of Dr. Cawsey's "Asep-tosol" added to half a pailful of warm water, sprinkle the inflamed surfaces with Dr. Cawsey's "Dusting Powder". The washing should be done once only, the parts kept dry as possible afterwards but the "Dusting Powder" should be used twice daily. Give one ounce of Dr. Cawsey's "Fever Tonic" four times daily until temperature becomes normal, and give one tablespoonful of Dr. Cawsey's "Convalescent Powder" in regular feed for one month after appetite returns.

Part II.—Diseases of Cattle

In considering the most common diseases affecting cattle, it is first necessary to understand something of the anatomy of the animal, particularly to point out the principal differences of such as compared to that of the horse.

The natural temperament of cattle being more sluggish than the horse, predisposes them to certain diseases to which horses are seldom heir.

Then again the uses of cattle and horses are very distinct and in most cases opposite, which naturally exerts a great influence on the variety of diseases most commonly affecting the two classes of animals.

The stomach of the horse is single and simple, very little true digestion occuring here, consequently this organ is not a common seat of disease. In cattle the stomach is complicated, consisting of four apartments or it may be said that they have four distinct stomachs continuous with each other, of enormous capacity, and each one playing an important part in the various stages of digestion. The first stomach acts as a store house, the second contains a large amount of liquid in which the food is soaked or partially dissolved, the third is composed of numerous folds or layers of a tough, strong tissue and acts as a strainer of the partially dissolved elements, and the fourth or true stomach, is where digestion really occurs and consequently of the most importance, and the one in which disease is of frequent occurance.

Other than the habits and the structure, horses and cattle can be considered similar, i.e., the corresponding organs of each perform the same func-

tions therefore the diseases affecting these organs usually originate from a common cause, but the symptoms demonstrate themselves in varying ways.

The average normal temperature of cattle is 101 degrees.

The average normal pulse beat per minute is 40 to 50.

The average normal number of respirations per minute is 10 to 14.

Several diseases discussed in the horse section of this book present symptoms similar when affecting both classes of animals. They require the same general line of treatment and it will, therefore, be unnecessary to discuss further the same diseases when cattle are affected.

Administration of Medicines

The methods of giving medicines to cattle are the same as those employed in horses, except when drenching is the method.

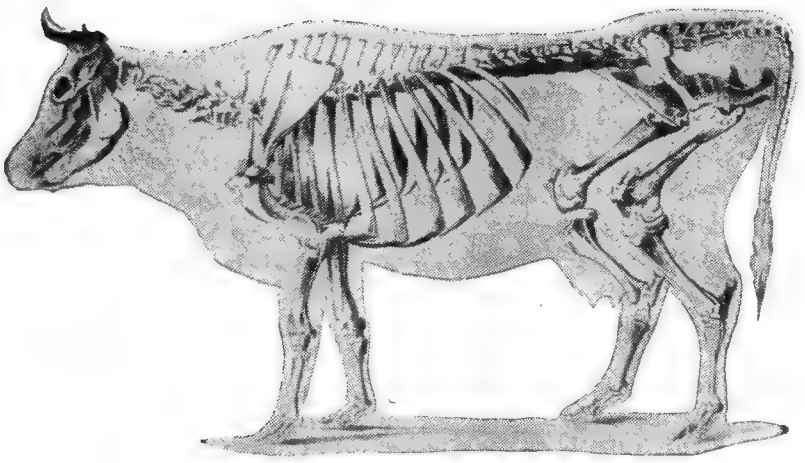
To accomplish drenching properly the assistant should grasp the patient's nostrils firmly between the thumb and finger of the left hand, the horns grasped with the right hand and the head elevated so that the mouth and throat form a straight line and the medicine poured slowly into mouth at the side.

Cattle swallow medicine very readily, nevertheless if patient attempts to cough during the act of drenching the head should be immediately released, thus avoiding a possible Pneumonia.

THE HEALTHY HERD

As cattle provide man with two very important elements of nutrition, viz.: meat and milk, it becomes, therefore, of the utmost importance that the stockman should have a knowledge of feeds, feeding and sanitation.

This knowledge not only prevents transmission of disease from beast to man, but it assures a healthy herd and consequently affects directly the revenue produced by such a herd.



SKELETON OF THE COW

SANITATION

The sanitary arrangements of stables are of the utmost importance when one is engaged in the cattle business and is desirous of attaining the maximum of success.

When beef cattle are to be considered, the fact of the feeding and housing being largely provided for in open sheds, nature usually supplies the essentials necessary to their general health, and experimental feeding by numerous authorities over widely scattered territories favor this particular method.

The shed in question should be built on high ground, thus assuring a dry bed, the roof tight and leak-proof, and the walls so arranged as to afford ample selter from extreme winds and storms.

When cattle are being housed as above it is very essential that an ample amount of salt be provided, permitting the cattle to partake of same in such quantities and as frequently as nature requires. The drinking water should be plentiful and easy of access and far better results are obtained when beef cattle are allowed to drink as frequently as they wish than when simply watered two or three times a day. By allowing the cattle to drink frequently, small quantities are taken and during the cold weather the usual chills are avoided, but when the water is available only at long intervals chills result, which demands a certain amount of the tissue building food elements to overcome this debilitating effect. Consequently the latter method requires more food and expense.

The best results are obtained when the feed is of variety, consisting of hay, corn, oats, bran and various roots of a succulent nature. Silage in the corn countries has proven to give excellent returns, not only in beef production, but also in the general health of cattle being fed such.

THE DAIRY COW

The dairy cow from years of intensive breeding and close housing, has become decidedly distinct in type and ability to endure natural hardships and, therefore, requires a great amount of careful management in order to effect the largest returns from the investment.

The more finely the breeding the more susceptible the cow to even minor influences, thus the artificial environments of a dairy herd should be as nearly perfect as it is possible to achieve the same.

Sanitation of stables, includes ventilation, airspace, light, drainage and general cleanliness.

The best evidence of insufficient ventilation is the accumulation on the walls and the ceiling of the stable of the moist air expelled by the cow. This leaves the animal's nostrils as impure air, of body heat, and when coming in contact with the outside cold atmosphere and if not allowed to escape, it immediately condenses, forming water which very often freezes, melts and consequently drips from the ceiling upon the animal's back, causing annoyance, inconvenience, and reducing the natural resistance to various diseases to which the dairy cow is susceptible.

As hot air rises and cold air falls, the ventilator should be arranged to assure a continual uninterrupted circulation, at the same time avoiding direct drafts.

The exit for the impure warm air should be at the top, at or near the ceiling and the entrance for the pure cold air at the bottom or near the floor of the ventilating system.

A ventilating system that will give satisfactory results can be easily and cheaply constructed so that there is no excuse for a stable being unsanitary in this respect.

The air space required is determined by multiplying the length by the width by the height of the stable.

Thus by dividing the result by the number of cattle in the stable the number of cubic feet or airspace per cow is easily arrived at, which principle should govern the dimensions of a dairy stable.

A 1,000 pound cow requires 59 cubic feet of air per minute and if the ventilation is efficient, assuring a continual circulation of pure air, the dimensions of the stable necessary to provide such is easily determined.

LIGHT

Each cow should have at least from 3 to 4 square feet of light provided, and in winter time the stable should be equipped with double sashes, this not only assures the same amount of light in this season as in summer, but prevents the thawing of ice and frost accumulated on the window glass, with the consequent absence of the unhealthy moisture dripping from same.

The required light space is arrived at by multiplying the length by the width of an individual window pane and multiplying the result by the total number of window panes in the stable, and dividing by the number of cows contained in same.

DRAINAGE

The first essential in assuring sufficient drainage is acquired by building the stable on a high elevation.

Cement is the best and most sanitary floor and the gutters behind the cows should be 18 to 22 inches wide with a depth of 9 inches nearest the cows, and of 6 inches nearest the alleys.

The drain is best located in the centre of the gutter. A 2½ or 3 inch slope from the ends to the centre of a 15-cow row is sufficient to carry off the liquid through the gutter.

As it is not the intention of this book to enlarge on the advantage of the various feeds for dairying purposes, it is necessary to state that experimentation by the best authorities has proven that variety in foodstuffs has given the best results.

This variety should include hay, the best qualities of grains and their by-products, such as bran, shorts, etc., and succulent feeds as silage, roots and vegetables.

Ground feeds give better results than when they are fed whole.

The watering system should be such as to allow the cow to drink when and as frequently as required and not given large draughts of water at irregular and long intervals.

GENERAL CLEANLINESS

This comprises clean, well-ventilated, lighted and drained stables, and also includes clean cows and attendants, and if a dairy industry is being conducted along the proper lines, all these essentials will be strictly observed, resulting in health to the cattle and profits to the owner.

SOME COMMON DISEASES OF CATTLE

INDIGESTION

This disease is caused by overeating, usually of spoiled or musty feeds, rapid changes in large quantities from one variety of feed to another, drinking unusual amounts of ice-cold water, and the lack of the supply of common salt, etc.

Symptoms—The first symptom noticed usually, is the refusal of food, and the failure to chew the cud. This is followed by bloating, the abdomen assuming enormous dimensions, slobbering of froth and belching of gas and partially digested food from the mouth, sometimes discharging some of the same from the nostrils.

This condition is usually attended by constipation of a very persistent nature.

Treatment—Freedom in a large comfortable stall or yard, and give at once dose of Dr. Cawsey's "Cattle Panacea." This should be dissolved in a half gallon of tepid water, and another half gallon of water given immediately after in the form of a drench.

An injection of warm water and soap suds should be administered every six hours and if there is evidence of colicky pains, give one-half bottle of Dr. Cawsey's "Colic Specific No. 2," repeating the same in 8 hours if the pain still continues.

When the appetite has returned feed bran mashes and put in each feed one tablespoonful of Dr. Cawsey's "Convalescent Powder" and continue same for two weeks.

CALF SCOURS

This disease is of two varieties, viz.: White and Ordinary.

White Scours, Calf Indigestion—This is produced by a germ, probably entering through the naval at birth or soon after, but is seen most frequently in calves fed artificially by being given considerable quantities of cold milk at long intervals, and rarely affects those calves being nursed as nature intended by the mother.

Symptoms—The milk which passes into the fourth stomach becomes curdled and acts as an irritant on the surface of the stomach and bowels, causing a catarrah of the same.

Diarrhoea begins in an aggravated form, the passages becoming gradually thin, having a yellowish-white color.

The patient becomes dull, whisks its tail as if in pain whenever there is a passage from the bowels, loses appetite, gets very weak and unless the disease is checked, dies in a few days from exhaustion.

Treatment—Give two ounces of castor oil as soon as the diarrhoea is noticed. Follow this with one tablespoonful of Dr. Cawsey's "Convalescent Powder" and two teaspoonsful of whisky or brandy mixed in two wineglassfuls of new milk and given the same four times daily.

A small quantity of new milk should be given five or six times daily or the calf should be allowed to suck the mother about six times a day, but the quantity should always be limited.

In applying treatment the mother should be closely examined as to the condition of her health, diet, etc., as the disease in the calf may be traced to the mother. In addition the mother should be prepared for the birth of the calf by disinfecting the vulva and hind extremities with Dr. Cawsey's "Aseptosol."

BLOAT OR HOVEN

This disease is caused by the fermentation of foodstuffs creating a gas in the rumen or paunch. Large quantities of green or immature hay, particularly clover, when placed in new pastures.

Symptoms—Distension of left flank, which often rises above the level of the back, which when struck with the fingers, emits a drum-like sound. The temperature is normal, respiration is frequent and difficult, expression is anxious, shows evidence of great distress, and if not relieved will die with suffcation.

Treatment—In severe cases the patient should be tapped with the trocar and canula; the animal should be tapped on the left side half way between the point of the hip and the last rib. After the insertion of the trocar the canula should be allowed to remain until there is no further evidence of escaping gas. Give the patient one package of Dr. Cawsey's "Cattle Panacea" dissolved in two quarts of warm water, and if there is no passage from the bowels an injection of soap suds and warm water should be administered every six hours. After the physic is through operating give one tablespoonful of Dr. Cawsey's "Convalescent Powder" in the regular feed three times daily for two weeks.

FOUL FOOT—OR FOOT ROT

This is an infectious disease generally occuring between the toes of cattle.

When once a case has appeared on a farm, it is difficult to eradicate as the soil about the barn becomes infected, and is thus communicated from one animal to another.

Symptoms—The first noticeable symptom is an acute lameness, and when the affected foot is closely examined a discharge of a yellowish-black pus is easily recognised, which gives off a distinctly bad odor.

Treatment—The foot should be thoroughly cleansed with hot water and Dr. Cawsey's "Aseptosol" and if necessary the soft, diseased portion of the hoof should be pared down to the healthy structure, after which a poultice of linseed should be applied in which one tablespoonful of Dr. Cawsey's "Aseptosol" has been mixed.

This treatment should be continued until all lameness and discharge has disappeared, and the stall should be kept clean, all litter and foreign matter having been removed.

SIGNS OF PREGNANCY

If a cow remains for three or four or more weeks after service without showing signs of heat (bulling) she is probably pregnant.

There are exceptional cases in which the well fed cow will accept the bull weeks or months after actual conception, and others in which the well thriven but unimpregnated female will refuse the male persistently, but these in no way invalidate the general rule.

The bull, no matter how vigorous his sexual instinct, can not be made to pay any attention to a cow which is not in heat; hence indications of pregnancy can be had from both the male and female side. When she has conceived the cow usually becomes more quiet and docile, and lays on flesh and fat more rapidly, epsecially during the first four months of gestation.

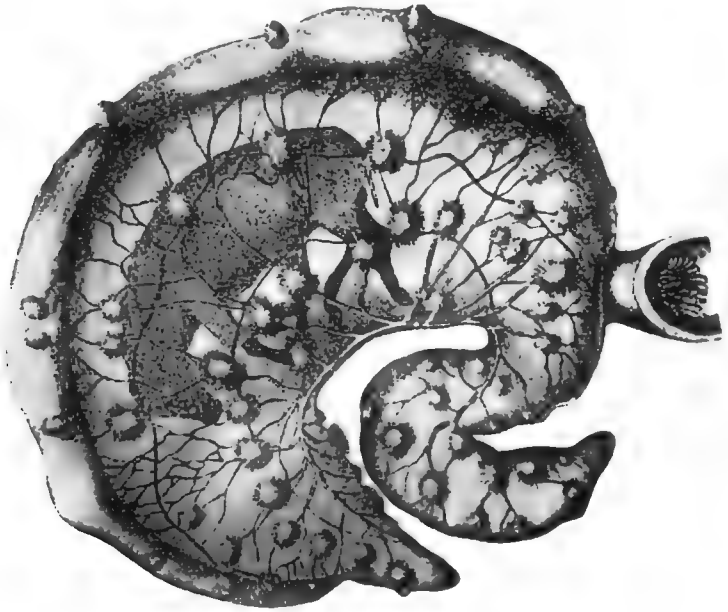
The enlargement of the abdomen, and its dropping so that it bulges below and to each side, while it falls in at the flank, between the outer angle of the hip bone and the last rib, are significant features, usually marks of pregnancy. The spine in the region of the loins sink from the increasing weight of the abdomen.

In the early stages of pregnancy the udder develops slowly and more rapidly toward its completion.

After the fifth month the movements of the calf may be often observed in the right flank, nearly in front of the stifle, when or immediately after the cow has drunk cold water.

Another mode of examination through the flank is by touch.

The palm of the hand is pressed strongly inward about eight inches in front of the stifle and a little



Undeveloped Calf in Uterus

below, several times in succession and is then brought to rest with the pressure still maintained. Presently there are felt distinct and characteristic movements of the calf, which has been disturbed and roused to action.

Of all the modes of examination by touch, that done through the rectum gives the earliest satisfactory indications. The hand and arm well oiled, are introduced, and the excrement having been removed, if necessary, the palm of the hand is turned downward and the floor of the pelvis carefully examined.

There will be felt in the middle line the pear-shaped outline of the bladder, more or less full, rounded or tense, according to the quantity of urine it contains. Between this and the hand will be felt a soft, somewhat tubular body, which divides in front into two smaller tubes or branches, extending to the right and left into the abdomen. This is the womb, which in its virgin or unimpregnated condidition is of nearly uniform size from before backward, the main part or body being from 1½ to 2 inches across and the two front branches or horns being each little over an inch wide. Immediately after conception the body and one of the horns begin to enlarge, the remaining horn remaining disproportionately small, and the enlargement will be most marked at one point where a solid, rounded mass indicates the presence of the growing embryo. In case of twins both horns are enlarged.

At a more advanced stage, when the calf begins to assume the form of the future animal, the rounded form gives place to a more or less irregular nodular shaped mass, while later still the head, limbs and body of the calf may be distinctly made

out. If the weight of the calf has caused the abdomen of the cow to fall particularly low, the calf can still be felt through the rectum, by passing a sheet under the abdomen from side to side and raised by assistants to a nearly normal position.

Another sign is to press the ear against the lower portion of the flank, and if pregnancy is well advanced, the heart beats of the unborn calf can be distinctly heard, which number about 120 beats per minute.

DURATION OF PREGNANCY

From extended statistics it is found that the average duration of pregnancy in the cow is 285 days. A calf born at the two hundred and fortieth day may live, and a case is reported of a calf born on the three hundred and thirty-fifth day, and another as born on the three hundred and thirty-sixth day. It is generally recognised as a fact that male calves are carried overtime more frequently than is the case with females.

ABORTION

This disease is of two varieties "Accidental" due to injury, and various external influences which may have a tendency to affect a pregnant cow.

Contagious or Infectious Abortion—Due to a germ communicated direct from the bull to the cow or vice versa, at the time of service. For instance, a healthy, pregnant cow may be stabled with an infected animal and unless brought into direct contact will carry her calf to maturity and a natural birth.

Symptoms of Contagious Abortion—In the first two or three months of pregnancy no symptoms may have been observed, and abortion may occur without having been noticed. The tail may be noticed to be soiled with blood and mucus, the udder may appear firm and a small quantity of milk flow from the same. If this is noticed the stall and gutter should be closely examined for any appearance of the immature calf. A cow previous to abortion is slow, sluggish, dull, separates from the rest of the herd, chews the cud languidly, or there may be frequent lying down and rising, uneasy movements of the hind feet and switching of the tail, slightly rapid pulse and respiration, the muzzle being hot and dry.

If watched closely the immature calf will be expelled and ordinarily the membranes or after-birth will not be expelled at the same time. There is very evident straining similar to when the birth is natural. According to the size of the herd, contagious abortions will follow one another at intervals of one to four or more weeks, in the order of their infection or of the recurrence of the period of activity of the womb which corresponds to the occurrence of heat.

Treatment—This is entirely of a preventative character, the cause must be located and every effort

used in an endeavor to avoid its occurrence in other members of the herd.

If a cow is weak and debilated she should be given one tablespoonful of Dr. Cawsey's "Convalescent Powder" in feed three times daily. The feed should be rich and of the best quality and a small portion of salt mixed in the same.

The drinking water should be supplied inside the barn during the winter months to avoid the drinking of ice-cold water. Stagnant and putrid water are to be avoided. Sudden changes of food are always a source of danger and thus to be avoided, but much more so in the pregnant animal.

The aborting animal should be isolated from all other pregnant ones, the aborted product should be removed to a safe place and burned. The vulva, tail and hind quarters of all cows in the same stable should be washed every morning with one tablespoonful of Dr. Cawsey's "Aseptosol" mixed in a pail of warm water, and the stall, gutter, etc. washed thoroughly with the same solution.

All litter, manure, etc., should be destroyed and the aborting cows fattened for slaughter.

By continuing the above advice and by the strictest observation over a period of one or more years, contagious abortion may be eradicated from an infected herd of cattle.

When the bull is known to be the cause of communicating the disease, the same instructions as applied to the cows should be practiced.

RETENTION OF THE AFTER-BIRTH

This is a common condition in cows and frequently follows abortion.

The membranes in cattle are attached along their course by cotyledons or (more commonly called buttons) and when the calf is prematurely born or expelled the membranes composing the after-birth are not released but remain firmly attached in the uterus.

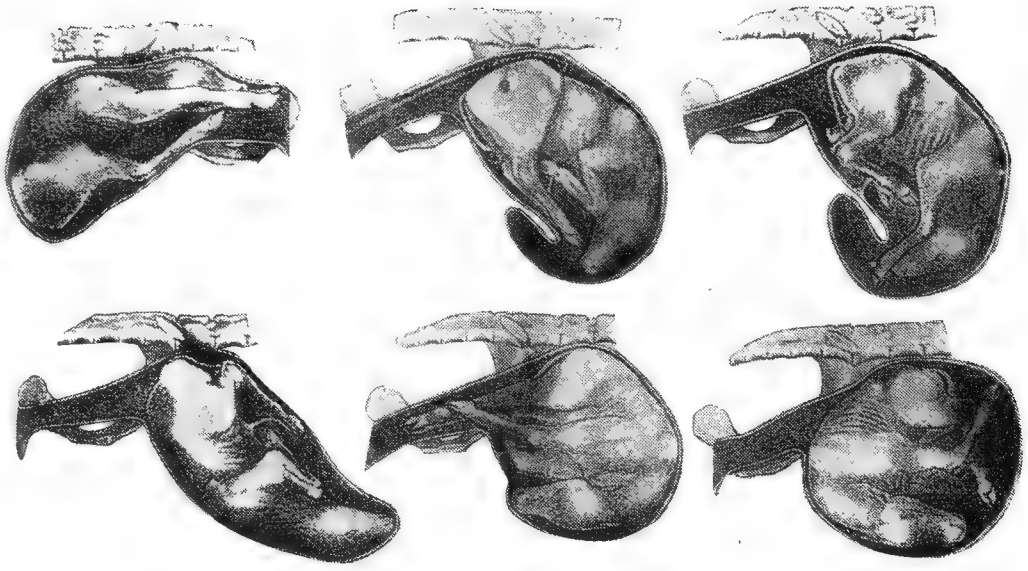
When this occurs there is no immediate cause for alarm or for taking any drastic action, but if allowed to remain for more than 24 hours, the membranes decompose and cause a vile, offensive odor, resulting frequently in blood poisoning, from the absorption of the decomposed material.

The common method practiced by the average stockman to cause a removal of the retained membranes is to attach to such a one or two pound weight, allowing this to hang from the same, the gradual tension of the weight finally pulling the membranes free.

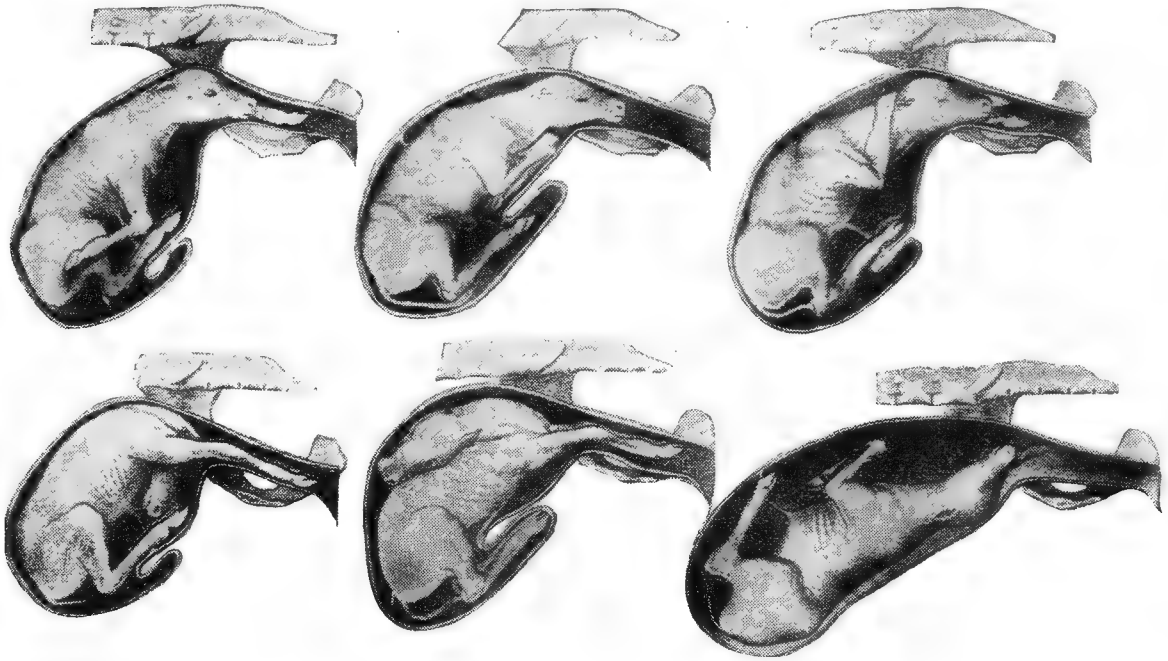
If this method proves unsuccessful and foul odors arise as the result, it becomes necessary for more skilful methods to be resorted to.

The operator first prepares himself by stripping to the waist, his arms smeared with carbolized vaseline or lard to protect them against infection, particularly in delayed cases with putrid membranes.

An assistant holds the tail to one side while the operator seizes the hanging membranes with the left hand, while he introduces the right along the right side of the vagina and womb, letting the membranes slide through his palm until he reaches the first cotyledon to which they remain adhered.



Abnormal Positions of Calf In Uterus



Abnormal Positions of Calf in Uterus

In case no such connection is within reach, gentle traction is made on the membranes with the left hand until the deeper parts of the womb are brought within reach and the attachments of the cotyledons can be reached. Then the soft projection of the membranes, which is attached to the firm mushroom-shaped cotyledon on the inner surface of the womb, is seized by the little finger and the other fingers and thumb is closed on it so as to tear it out from its connections.

As the cotyledons vary in number from 50 to 100 this process of separating the cotyledons from the membrane must be carefully conducted, one after another until the last has been detached and the after-birth comes freely out of the passages.

If the patient strains violently after the operation she should be kept in a quiet, dark place, or walking slowly until she ceases straining, will avoid the possibilities of the womb being forcibly protruded.

The patient should be given hot bran mashes, placing in same one tablespoonful of Dr. Cawsey's "Convalescent Powder" for one week following the operation.

EVERSION OF THE WOMB—EXPULSION OF THE CALF-BED

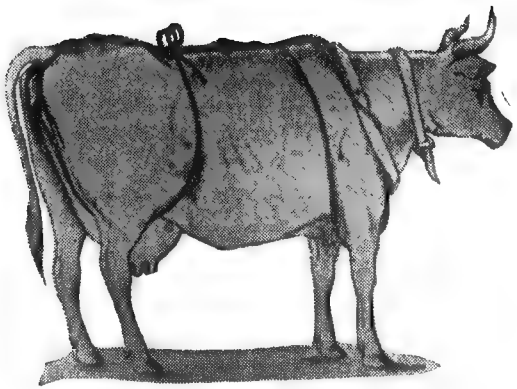
This condition is either partial or complete. In the first only a portion of the womb is found protruding. When this occurs the operation of replacing the expelled portions is easily accomplished. If the patient persists in straining the services of an assistant are required who, by exerting moderate pressure or by pinching the back over the loin region will prevent the straining which is very essential if the replacement of the protruded mass is to be hoped for. The operator carefully washes the parts with a weak solution of Dr. Cawsey's "Aseptosol" and with the closed fist exerts a steady pressure upon the expelled womb, which, if manipulated intelligently, will soon result in the same being carried back into the vagina.

When the eversion is complete the operation of returning the organ becomes more difficult and greater skill is required in accomplishing the same.

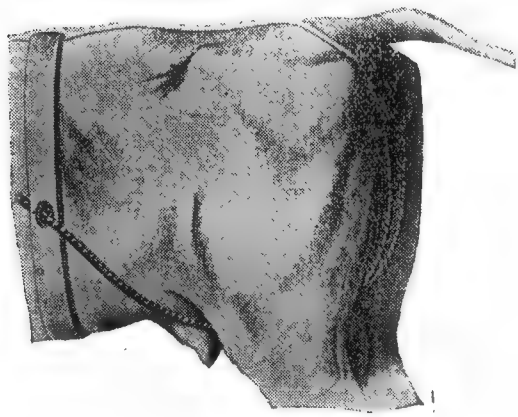
If the womb has been protruded for a long time blood accumulates and the organ becomes greatly enlarged, sometimes being lacerated and mortified, which greatly complicates the condition and consequently is of a more serious nature.

It may now be necessary to administer chloroform to overcome the excessive straining. The womb should be first washed with a weak solution of Dr. Cawsey's "Aseptosol" and wrapped in a strong linen bandage, beginning at the free end and proceeding back to the vulva. The bandage should be applied tightly thus forcing the blood out of the womb and diminishing the same in size.

Now by exerting pressure the womb is gradually replaced at the same time unwinding the bandage



Truss for Retention of Everted Uterus



until the whole mass is returned to its proper location.

To retain the organ it is usually necessary to adjust a truss.

The construction of the truss is explained as follows:

Take two ropes, each about 18 feet long and an inch in thickness. Double each rope at its middle, and lay the one above the other at the bend so as to form an ovoid of about 18 inches in its long diameter. Twist each end of the one rope twice round the other so that this oveid will remain when they are drawn tight. Tie a strap or rope around the back of the neck and a circingle around the middle of the body.

Place the rope truss on the animal so that the ovoid ring shall surround the vulva, the two ascending ropes on the right and left of the tail and the two descending ones down inside the thighs on the right and left of the udder. These descending ropes are carried forward on the sides of the body and tied to the circingle and to the neck collar. The ascending ropes proceed forward on the middle of the back, twisting over each other, and are tied to the circingle and collar. The upper and lower ropes are drawn so tightly that the rope ring is made to press firmly all around the vulva without risk of displacement.

This should be worn for several days until the womb shall have closed, and all risk of further expulsion is at an end.

Such additional precautions as keeping the cow in a stall higher behind than in front, and seeing that the diet is slightly laxative, are considerations worthy of mention.

GARGET—CAKED UDDER

This condition occurs in heavy milkers just before and after calfing. It is the rule that the bag is enlarged, hot and painful, and that a slight exudation or pasty swelling extends forward from the udder on the lower surface of the abdomen. This natural condition is always looked for, which disappears in two or three days when the secretion of milk is fully established.

There is always a great tenderness, the patient attempting to kick when milking artificially, or she may even refuse to allow the calf to suck.

The breaking up of the bag may be accomplished by the simple process of allowing the calf to suck several times a day.

The kneading and the massage of the natural actions of the calf in obtaining nourishment is usually all the treatment necessary. If this does not relieve, the cow should be given a cupful of Dr. Cawsey's "Cattle Panacea" dissolved in one quart of warm water, the udder massaged and a quantity of sweet or olive oil rubbed into the same twice daily, and continued until all tenderness has disappeared.

COWPOX

This is a form of contagoius inflammation of the udder which does not spread readily from animal to animal, except by the hands of the milker.

This disease in the cow is ushered in by a slight chill which, however, is usually overlooked, and the first signs is tenderness of the teats. When examined these may be redder and hotter than normal, and at the end of two days there appear little nodules, like small peas, of a pale red color, and increasing in size so that they may measure three-fourths of

an inch to one inch in diameter by the seventh or eighth day.

These nodules form blisters which burst, discharging a straw-colored fluid, which dries, leaving a brownish-yellow scab, which finally falls, leaving one or more distinct pits on the teets.

The healing of the sores should be accomplished by using Dr. Cawsey's "Healol Ointment" applied to the ulcers after each milking. If the act of milking appears to cause much pain it may be necessary to perform same by the use of the teat syphon.

To prevent the spread of the infection the hands of the milker should be thoroughly washed in a solution of Dr. Cawsey's "Aseptosol" both before and after milking.

SUPPRESSION OF MILK

The absence of milk in the bag may result from ill health, debility, emaciation, chronic disease of the bag, wasting of the same from a previous disease, or insufficient food, but sometimes it will appear suddenly without the cause being known.

Treatment—Consists in removing the cause of the disease, feed rich, good quality diet, bran mashes, mixing in same one tablespoonful of Dr. Cawsey's "Convalescent Powder" to be continued over a period of one month or until the milk regains its normal flow.

MAMMITIS—INFLAMMATION OF THE UDDER

Causes—This condition may follow a simple congestion of the udder, or it may arise from exposure to cold or wet, with standing in a cold draft, with blows on the udder with clubs, stones, horns or feet, or with the projecting edge of a board or the end

of a nail in the floor, with sudden and extreme changes of weather, with overfeeding on rich feeds such as peas, beans, etc., with indigestion, with sores on the teats, or with insufficient stripping of the udder during milking.

In the period of full milking the udder is susceptible to any serious disturbance of the general health.

Symptoms—The onset varies in different cases. When following exposure there is usually a violent shivering fit, with cold horns, ears, tail and limbs, the hair standing erect. This is soon followed by the udder swelling, becoming hot and painful in one, two, three or all four quarters.

The muzzle is hot and dry temperature 103 to 106, the breathing is more rapid, the appetite is very erratic, or it may be lost, the milk flow being diminished or entirely suspended.

The swelling of the udder becomes doughy and will pit upon pressure, sometimes the milk being entirely suppressed, the teats will exude a watery blood which will eventually develop into pus of a very bad odor.

As this disease advances and becomes more serious the udder may become permanently hard or it may become softened, developing pus, with abscess formation and a fistula of the udder resulting. In extreme cases the udder may become gangrenous, in which case it will probably slough entirely away.

Treatment—Will vary with the type and stage of the disease. If the first symptom is noticed every effort should be made to warm the patient. Give one-half pint of whisky or brandy at one dose, apply liberally to the whole body Dr. Cawsey's "Red Anodyne Liniment." Place a warm, thick blanket over the patient to induce sweating. The udder

should be bathed for long periods with hot water after which apply Dr. Cawsey's "Astringol."

A wide susupensory bandage with holes cut for the teats should be applied and tied over the loins.

Give one tablespoonful of Dr. Cawsey's "Fever Tonic Specific" every three hours, until temperature is normal and continue the bathing of the udder until it becomes painless and the flow of milk returns. After treatment consists in milking several times a day and administering one tablespoonful of Dr. Cawsey's "Convalescent Powder" in dampened food for a period of one month.

If abscess develops the udder should be washed and the cavities syringed with one tablespoonful of Dr. Cawsey's "Aseptosol" in one gallon of warm water three times daily.

MILK FEVER—PARTURIENT APOPLEXY

This disease occurs commonly in cows of mature age, at or near the time of calving.

It never occurs with the first calf and very rarely with the second. It appears with the third, fourth, fifth, or sixth calf, after the growth of the cow has ceased, and when all her powers are devoted to milk production.

Cows that are heavy milkers and that have enormous powers of digestion are the most liable to this disease at the time of calving.

The theory is that the blood of the animal is extremely overloaded with a fatty substance although the patient itself may appear thin. At time of calving and the increase flow of milk which accompanies same, the greatest amount of blood is centered in the udder, causing a congestion in this organ and virtually depriving the rest of the body of the normal blood supply, finally resulting in the brain becoming bloodless, which is responsible for the development of this disease.

Symptoms—There may be said to be two distinct forms of this disease, viz.: Congestive and Torpid types.

In the first there is sudden dullness, hanging back in the stall, drooping head, uneasy movements of the hind limbs or tail; if the patient is moved a staggering gait is very pronounced. She no longer notices her calf or her food, the eyes are red and the pupils become dilated; the weakness increases and the cow lies down or falls and is unable to rise.

At this time the pulse is full and bounding and the temperature about 104 degrees; the head, horns and ears appear particularly hot. The patient may

lie on her breastbone with her feet beneath the body and her head turned sleepily around, with the nose resting on the flank; or if worse, she may be stretched full on her side, with even the head extended, though at times it is suddenly raised and again dashed back on the ground. At such times the four legs struggle convulsively, apparently the cow being unconscious of such convulsions. By this time the unconsciousness is usually complete; the eyes are glazed, their pupils widely dilated, and their lids are not moved when the ball of the eye is touched with the finger. Pricking the skin with a pin also fails to bring any response or wincing. The pulse, at first from 50 to 70 per minute, becomes faster and weaker as the disease advances.

The breathing is quickened, becoming more and more so with the violence of the symptoms, at first accompanied by a moaning (in exceptional cases bellowing) it may, before death become slow, deep sighing or rattling (snoring). The temperature gradually tends to get lower as stupor and utter insensibility become more established. The bowels which may have moved at the onset of the disease, become torpid or completely paralysed, the bladder being in the same condition. A free action of the bladder or bowels or of both are favorable signs at all times.

The milk secretion may fail, yet often the udder continues to yield its product for a considerable time.

In nearly all cases the torpor of the digestive organs results in gastric disorders; the semi-digested food in the stomach and intestines ferment, causing gas, which produces extreme bloating.

In the "Torpid" form of the disease there is much

less indication of fever or violence. The attack comes on more slowly, with apparent weakness of the hind limbs, dullness, drowsiness, loss of the appetite and a general indifference to surrounding objects. Soon the cow lies down, or falls and is unable to rise, but for one or two days she may rest on the breastbone and hold the head in the flank without showing any alarming symptoms or convulsive movements. Meanwhile there is not only loss of muscular power and inability to stand, but also considerable dullnes of sensation, pricking the skin producing no quick response, and even touching the eye lids causing no very prompt winking.

This stage, unless relieved, develops all the advanced symptoms of the more violent type of the disease.

Treatment—Prevention is of far more consequence than any medicine. The diet should be very spare (amounting to actual starvation in very heavy milkers) for a week before calving and at least four days afterwards. Free access to salt and drinking water, as this will dilute the enriched blood. Give one package of Dr. Cawsey's "Cattle Panacea" dissolved in two quarts of water twelve to twenty-four hours before calving. Immediately after calving the calf should be allowed to suck, and if the udder still shows a fullness it should be milked dry. Exercise is always an important factor in preventing Milk Fever.

After the patient becomes unconscious the throat is paralysed and drenching should never be attempted.

The udder should be pumped full of oxygen immediately the first symptom is recognized. This is accomplished by the use of the teat syphon and a

milk fever outfit. The four teats are injected with the oxygen separately until the udder is completely inflated and the teats tied with a broad tape. This treatment causes the air to exert pressure on the engorged udder blood vessels, thus forcing the blood back into the general circulation, and the improvement in the patient in a few hours' time from the injection of the air, is truly marvelous.

Although it is usually unnecessary to repeat the inflation of the udder it is advisable to inject the air a second time, as recovery will then appear more rapid and complete.

This treatment will prove successful in at least 95% of all cases even though not applied until the advanced stages of the disease. The after treatment consists in milking the patient frequently and feeding small quantities in which should be mixed one tablespoonful of Dr. Cawsey's "Convalescent Powder", this to be continued for one month.

FOOT AND MOUTH DISEASE
APTHOUS FEVER

This disease is also known as Epizootic Aptha and Apthous Fever, and may be defined as an acute, highly contagious fever of a definite nature, characterized by the eruptions of vessicles or blisters in the mouth, around the coronets of the feet, and between the toes. It is not only confined to cattle but attacks hogs with equal facility. Sheep and goats are less susceptible. Horses, dogs, cats and fowls are rarely attacked.

Human beings may become infected by drinking the unboiled milk from animals suffering with the disease.

This disease is very seldom fatal and chiefly restricted to children and to those adults who handle sick animals or drink large quantities of unboiled milk.

The disease is most prevalent in the European countries and occasions great losses. Although the mortality is quite low, serious losses result from the diminution of the milk secretion and consequent interference with the dairy business.

There is likewise more or less loss of flesh in beef cattle when they are the ones attacked.

Contrary to most other infectious diseases, foot and mouth disease may attack the same animals repeatedly, provided the intervals between the attacks are longer than six to twelve months.

The exact cause of this disease was not well understood for a number of years, but it is now known to be due to germ origin.

These germs are not easily destroyed when they

exist in infected stables, some authorities claiming that they may live in stables as long as one year, and still be capable of again introducing the disease. Human beings may carry the germ on their clothing and transmit it on their hands when milking, since the udder is occasionally the seat of the eruption. Milk in a raw state may also transmit the disease to animals fed with it.

Symptoms—The disease begins with a fever, the temperature usually is about 104 degrees F. The animal ceases to chew its cud, the mouth becomes reddened, and the appetite is lost. There is always a great depression, the mouth is very painful and kept closed, and the flow of saliva is greatly increased.

The lips are frequently smacked, which is a very characteristic symptom in the early stages of the disease. After two or three days the blisters appear. This consists of small yellowish-white vessicles or blisters, about the size of a pea, on the gums and inner surface of the lips, the inside of the cheeks, the border and under surface of the tongue. The blisters may now be half an inch or more in diameter.

These blisters burst soon after their appearance, sometimes on the first day. More rarely they may persist for two or three days if small. The membrane forming the blister may remain attached for a day or two or disappear rapidly, leaving deeply reddened spots which are very painful. These spots may heal very speedily and become covered with the normal tissue, or in unfavorable cases may form deep ulcers. In this stage the saliva forms in large quantities and hangs in strings from the mouth. In eight to fourteen days the disease may have entirely disappeared.

In addition to the change going on in the mouth, one or more feet may become diseased. The skin around the coronet and in the cleft between the toes becomes hot and tender and may swell.

These symptoms may disappear rapidly and the animal make a recovery, or the feet may be very much swollen and painful, in the inflammation extending into the bones and tendons of the feet causing supperation, or the hoof may be shed. In such cases the animal rarely recovers.

As a result of the general affection young calves may succumb to a secondary inflammation of the stomach and bowels, and in older animals abortion is a common complication or they may suffer from inflammation of the udder.

Treatment—As this disease is usually controlled by Government authorities, it should be reported as soon as there is any suspicion of the infection existing on any premises. It is therefore inadvisable to suggest any medicinal treatment until the proper authorities have made an investigation, as the very act of not reporting to such, even though there is only the slightest suspicion, makes the owner liable to prosecution and the imposing of a heavy penalty.

RABIES OR HYDROPHOBIA

This is a disease which seems to originate in the canine race particularly dogs, and is usually transmitted to other species of animals and to man through bites of animals suffering with the disease.

The salvia contains the germ which is introduced into or under the skin at the time of the bite, on the teeth of the rabid animal.

An animal suffering with rabies will bite continually at imaginary as well as realistic objects. The biting is of a snappy character, the affected animal never tearing or hanging on as is the custom when biting is a purely vicious habit.

This in itself will usually distinguish a rabid animal from one biting for other reasons.

As dogs are commonly used for driving and herding cattle, it is not uncommon for cattle to be bitten by mad dogs and Rabies resulting from such bites.

Symptoms—This disease may be divided into a preliminary stage, a stage of excitement or madness, and a paralytic stage.

In all cases the termination is fatal and the entire course is from five to six days. The preliminary stage is indicated by loss of appetite, great restlessness, anxiety and manifestations of fear.

The second stage distinguished by increasing restlessness, loud roaring, at times with a noticeably changed voice, violent butting with the horns and pawing the ground with the feet.

A constant symptom is the increased flow of saliva which hangs in strings from the mouth, and which is frequently frothy, constipation is marked, and there is a continual effort to defecate, which is unsuccessful. Spasms of the muscles in different parts of the body are also present at intervals.

In the final stages symptoms of paralysis appear,

especially in the hind limbs, and the walk becomes stiff, unsteady, and swaying. Complete paralysis of hind half of body may appear before death. In this stage the body is terribly emaciated in spite of the short duration of the disease. There is never any elevation of the temperature.

It is not an easy matter to decide whether a given animal has Rabies, since the symptoms given above belong to a variety of other diseases. The positive evidence that a rabid dog has been near cattle suspected would greatly assist in making a decision in doubtful cases. The disease is pretty well recognized in dogs by most people, but in case a suspected dog is killed it is desirable to open the animal and examine the contents of the stomach. While food is absent a variety of odd things may be present which the abnormally changed appetite of the rabid dog has induced him to swallow. Among such things may be straws, sticks, glass, rags, earth, pieces of leather and whatever the animal may have encountered, small enough to be swallowed.

This miscellaneous collection in the stomach of dogs is regarded by authorities as a very valuable sign, and may be made use of by the layman in case of doubt.

Treatment—This is out of the question after the symptoms have once appeared. When, however, seen after a bite from a rabid dog and the wound can be found, it may be desirable to cauterize it with a hot iron or with strong acids, alkalies, or even to cut out the entire wound if such proceedure is possible.

As this disease is controlled by Government authorities, any development of suspicious symptoms should be immediately reported to such, or otherwise the person found guilty of harboring an animal suffering with this disease is liable to prosecution.

TUBERCULOSIS

Tuberculosis is an infectious disease characterised by the formation in various organs of the body of minute nodules or tubercules which contain a germ (Bacillus Tuberculosis) the cause of the disease.

This disease has been known to exist for many centuries but the exact cause was not understood until 1882, when the bacillus was discovered by Robert Koch. This discovery established the fact that the disease was contagious, which question had been a matter for dispute previous to this time.

Man and all the domestic animals are subject to the infection, and it is possible to transmit the disease from one to the other. The horse appears to have a natural immunity to tuberculosis, and the few cases that have been reported have never been satisfactorily proven.

Animals that are stabled for many months of the year are affected in greater numbers than those at pastures.

Tuberculosis is particularly common in dairies, due to the close, warm confinement of the cattle. Cattle that are running on the open range during the entire year are not commonly affected.

It is more common in the cow than in the bull or ox, and in old than young animals. The number of cases which have been recognised in the calf is very small because intra-uterine infection ordinarily leads to abortion.

The cause of this disease may be considered as twofold, the tubercle bacillus first and foremost, without which this disease could never develop, and certain predisposing causes which prepare the way for it.

The first feature to be considered is the means by which the tubercle bacilli find their way into the body.

These in the order of their importance occur as follows:

(1) By inhalation into the lungs; (2) into the digestive tract in the milk of tuberculous cows; (3) during the act of service, when the sexual organs of either the bull or the cow are tuberculous; (4) from the tuberculos mother to the unborn calf in the uterus. Inhalation is by far the most common mode of infection in which case the lungs are the first organs to become affected.

The bacilli can only get into the lungs when inhaled. They must, therefore, be thoroughly dried and pulverized before currents of air can carry them. It is well known that the germs withstand drying for months before they lose their power of producing the disease. They leave the body of diseased animals in several ways. There may be a little discharge occasionally coughed up from the diseased lungs, or milk may be spilt, or there may be a discharge from the vagina when the genital organs are affected. The germs from these sources may become dried and pulverised, and carried in the air of the stable and into the lungs of healthy cattle where the disease then develops.

When the stomach and intestines are the seat of the disease, it is very probably the result of food infection.

The germs may have been scattered upon the feed by diseased animals. But the most common source of such infection is the milk of tuberculous cows. Calves are usually infected in this way, but no symptoms may develop until the animal becomes older.

The frequent occurance of tuberculosis of the womb and ovaries makes it probable that the disease may be transmitted by a diseased bull, or carried by

a healthy bull from a diseased cow to a number of healthy cows.

The source of infection is always some previous case of the disease, for the latter can never arise spontaneously. Hence, in those stables in which there is frequent change of cattle, the introduction of tuberculosis by cattle coming from other infected stables is the most frequent source of infection. Since the germs, when dried can be carried by the air, it is not necessary that healthy animals should come in direct contact with cases of the actual disease to become affected.

The conditions which favor the germs in their attack are numerous. Unsanitary conditions, such as overcrowding in poorly ventilated and poorly lighted stables, feeding of poor quality food, inhaling dust and smoke and all conditions which may cause a chronic inflammation of the bronchial tubes (broncho pneumonia).

Among other causes known to favor the development of tuberculosis is the overproduction of milk, too many births, the improvement of stock by continual inbreeding, the offspring inheriting certain constitutional weaknesses. Cattle living in the lowlands are more subject to this disease than the more robust races living in elevated mountain regions. Animals subjected to special feeding, such as cows in distilleries, breweries, and other factories having waste available as food, are the most susceptible to the diseae. In general the greatest number of cases may be said to occur in the immediate vicinity of cities where there are not only abundant opportunities for infection, owing to the frequent entry of new animals into herds, but where the sanitary conditions may be regarded as the poorest.

When the bacillus becomes lodged in any organ

or tissue of the body, it begins to multiply, and thereby causes an irritation in the tissues around it, which leads to the formation of the so-called tubercle, whence the general name of the disease, tuberculosis. These tubercles soon undergo certain changes, a soft cheesy substance is formed in the centre which may contain particles of lime salts. When these continue to form in large numbers they run together, forming masses of various size. The formation of the cheesy substance continues, which is yellowish in color and contains more or less of the lime salts in the form of gritty particles. These large, tuberculous masses are surrounded by or imbedded in layers of fibrous tissue which in some cases become very thick and dense.

Tuberculosis is thus a development of these tubercles in one or more or all the organs of the body. The distribution and the number of these determine the course of the disease, and the symptoms produced correspond with diseases in the organs which may be affected.

Symptoms—The beginning of the disease usually passes unnoticed as it develops very slow and gradual and rarely accompanied by any fever. When the lungs are affected a dull, short cough is noticed, which may later on become prolonged, convulsive, and very troublesome to the animal. The cough appears to be more prevalent in the morning after movement and drinking. The breathing varies. Only when much of the lung tissue is involved it is labored and accompanied by active movements of the chest and nostrils. Discharge from the nostrils is rare or entirely absent.

At times, however, when the tubercles have broken down and cavities containing cheesy masses have formed in the lung tissue, and the air tubes

have become filled with such, coughing will dislodge these and cause a discharge of the yellow, cheesy pus through the nostrils. In advanced stages the breath may have a foul odor. Pressure on the chest may give evidence of pain.

The general effect on the body is at first slight and rarely noticeable. In fact animals may remain in good flesh for a considerable time. Invariably, as the disease advances there is loss of flesh and appetite and the membranes of the mouth and eyes become very pale, and there is a gradual lessening in the secretion of milk. The coat becomes staring, the skin dry and appears tight (hide-bound).

Digestive disturbances are indicated by bloating, colic and diarrhoea, alternating with constipation.

The animal generally dies from exhaustion after a period of sickness which may last months or years.

Tuberculosis in the abdominal organs is often indicated by abortion, and morbid sexual desires.

Diagnosis—It being impossible to lay down any hard and fast chain of symptoms whereby tuberculosis can be positively recognised, and it being of the utmost importance that the owner should be definitely informed upon the appearance of any alarming or suspicious indications, submitting the suspected animal to the tuberculin test should always be resorted to.

Tuberculin can be readily and cheaply obtained from almost any druggist, and the method of applying the test is as follows:

First secure six temperatures at intervals of not more than two hours apart, say at 10 and 12 a.m., 2, 4, 6 and 8 p.m. This is to secure as nearly as it is possible the average normal temperature of the animal to be tested and to be assured that there is no other existing disease, which the temperature will

indicate. If the temperatures obtained are not reasonably near the normal, testing should be postponed until such time as they return to same.

The syringe used in injecting the tuberculin should be sterilised, the needle and all metal parts being boiled in clean water for at least 15 minutes. The hair at the point of injection (which is usually just in front of the shoulder) should be clipped, and thoroughly washed with a solution of Dr. Cawsey's "Aseptosol."

The time of injection should be at the hour the last temperature was taken (8 p.m.).

The animal is secured, possibly the services of an assistant being necessary to accomplish this. The tuberculin is drawn up into the syringe, and the needle inserted through the skin, the contents of the syringe being discharged under the skin.

The injected animal should now be left in comfortable, quiet quarters, and a period of eight hours allowed to elapse, but during this time, and in fact, throughout the whole period of the test, the hours of watering and feeding should be the same as usual.

The hours of obtaining the temperatures after injection, starting with the eighth, should be not less than eight in number, at intervals of two hours, say at 4, 6, 8, 10 and 12 a.m., and 2, 4 and 6 p.m.

If at the last hour (6 p.m.) the temperature appears to be erratic and unsatisfactory, it will be necessary to continue taking temperatures at the stated intervals, until such time as one is assured that a reaction is or is not going to occur.

A reaction indicates that the animal is suffering with tuberculosis, and may be recognised by the following symptoms:

The temperature will be elevated at any or all of the hours mentioned above. It may elevate abruptly or gradually, a consistent rise of 2% being considered a reaction. Sometimes the temperature will be very high as 106 or 107 degrees F. If this is the case constitutional disturbances are usually in evidence. The animal will refuse food, ceases to chew the cud, the hair is standing erect, may have chills, and a very frequent occurance is the presence of diarrhoea. When these symptoms occur the reaction is positive and no doubt exists as to the animal being affected with tuberculosis.

Treatment—The treatment of tuberculosis is not being seriously considered by any authorities at the present time, but measures to stop the spread of the disease should be practised at all times, partciularly when one considers the possibility of transmitting the disease from animals to the human race.

Cattle should be stabled and fed so that they will be in shape to resist tuberculosis when exposure to same occurs.

The tuberculin testing of all cattle in the herd and the elimination of those reacting. The tuberculin testing of all recently acquired cattle before placing them in the tested herd.

The carcasses of animals which have died of tuberculosis should be buried deeply or burned so that they can not be eaten by other animals.

ACTINOMYCOSIS— LUMPY-JAW

This disease is caused by the entrance into the body of a fungus or bacteria contained on certain plants, which, when eaten by the animal, produces the disease.

The favorite location is the lower jaw, but any part of the body may be attacked.

To give a general explanation, it can be said that it consists of two varieties, viz.: Internal and External.

External—This is usually seen in the head, most commonly the lower jaw being the part affected. The seriousness of the attack varies to a great extent, depending entirely upon the tissues involved.

When only the soft structures are the seat of the disease it is recognised by the formation of a tumor, which may be quite small or assume enormous proportions. The tendency is for this tumor to gradually increase in size, finally rupturing and discharging a granular pus, which, if dropped on the feed or pasture and eaten by other cattle, will produce the same condition in them. This explains the method whereby the disease is spread and why it is always dangerous for an animal suffering with Lumpy-jaw to associate with others.

When the bones of the jaw are involved it becomes of a more serious nature, the disease advancing until the bones are honey-combed, the teeth loosened, a discharge of a foul pus, the animal being unable to eat, finally being so emaciated that death results from exhaustion and starvation.

Internal—This variety of the disease may involve any of the internal organs, the lungs and liver being the favorite organs affected.

When this is the case it is very difficult to diagnose and is very often confused with tuberculosis, but can always be differentiated from such by submitting the animal to the tuberculin test.

Treatment—When the soft tissues of the jaw are affected good results have been obtained by clipping the hair over the part affected and given a thorough blistering with Dr. Cawsey's "Precipitol." It may be necessary to repeat this a second or third time, at intervals of three weeks. When the bones are extensively diseased treatment does not give the results hoped for, and is therefore not recommended. In this case it is better to destroy the suffering animal, and the carcass of same should be burned or deeply buried to prevent the spread of the disease and thus afford the protection necessary to the rest of the herd.

The internal variety of the disease is ordinarily discovered and recognised only after the animal has been slaughtered, as very often the internal organs may be quite extensively affected and the animal give no indication of any inconvenience, being fat at the time of slaughter.

Although this disease occurs in man the fact of it being transmitted to him from cattle by contact has been intensively investigated but as yet has never been proven.

It may, however, be transmitted to man by the eating of meat of animals suffering with the disease at the time of slaughter.

It is well, therefore, to emphasise the necessity of meat from whatever source being always well cooked, the process of cooking being in itself a very important means of eliminating the spread of the disease.

ANTHRAX OR CHARBON

This disease is an infectious disease caused by a certain germ, known as anthrax bacillus. While it is chiefly limited to cattle and sheep it may be transmitted to goats, horses and certain kinds of game. Dogs and swine are very rarely affected. Man is also attacked. Outside the animal body the germs thrive in low, marshy lands, making this particular variety of pasture lands, when once infested, an ideal source of spreading the disease.

The germs may be taken into the body with the food and produce the disease, which begins in the intestinal tract; or they may come in contact with scratches, bites or other wounds of the skin, the mouth, and tongue, and produce in these situations swellings or carbuncles. From such swellings the germs penetrate into the blood and produce a general disease. It may attack one or several animals of the same herd the rest remaining healthy, or it may attack a large number of the same herd.

Symptoms—These vary according to the organs affected, whether the disease begins in the skin, in the lungs or in the intestines.

They depend also on the severity of the attack.

In one form the animal dies very suddenly as if from apoplexy. Such cases usually occur in the beginning of an outbreak. The animal, without having shown any signs of disease, suddenly drops down in the pasture and dies in convulsions, or an animal apparently healthy at night is found dead in the morning.

The second type shows no external swellings and is the one most commonly seen in cattle. The disease begins with a high fever. The temperature may reach 106 to 107 degrees F. The pulse beats from 80 to 100 per minute. Loss of appetite, chills and

muscular tremors. The ears and base of horns are cold, the coat is dry and staring.

The animals are dull and stupid and show great weakness. The dullness may give way to great uneasiness, champing of the jaws, spasms of the limbs, kicking and pawing the ground.

The breathing may become labored. The nostrils then dilate, the mouth is open, the head is raised and all the muscles of the chest are strained during breathing. If the disease has started in the bowels there is much pain, as shown by the animal moaning; the discharge from the bowels at first firm, becomes softer and covered with a shiny membranous substance, accompanied by blood.

As the disease approaches the fatal termination the weakness of the animal increases. It leans against a support or lies down. Blood discharges from the nose, mouth, rectum and vagina. The urine frequently contains blood. Death occurs within one or two days.

A third type of this disease includes those cases which are more prolonged. It may last from three to seven days and terminate fatally or end in recovery. This type is very rarely seen and the symptoms are practically as described in the second type, only less marked.

When, however, this disease is suspected and as it is usually controlled by Government authorities, it should be immediately reported to their officials.

Treatment—Is at all tmies dangerous to the individual attempting such and generally of no avail.

Prevention—Consists in the inoculation with the regular anthrax vaccine, and the removal of cattle from pastures and premises that are known to be infected with the germ.

BLACK QUARTER—OR BLACK-LEG

This is a rapidly fatal infectious disease of young cattle, occuring commonly in the spring and fall months. Those between the ages of six months and four years of age are the most susceptible, sucking calves under six months are never or seldom attacked.

The germs are deposited on the grass of pastures from spores and are capable of resisting destruction for months or even years. They may produce the disease after years of drying, being carried in the hay, and thus produce the disease in cattle being fed such hay while being stabled.

The germs usually find their way into the animal body through wounds, of the skin, mouth, tongue, or throat. These wounds often are caused by the sharp or pointed parts of the food.

Symptoms—These are very rarely observed, the animal being dead before any alarm is caused to the owner. The general symptoms are ordinarily very similar to those belonging to other acute infectious or germ diseases. They begin with loss of appetite, marked dullness and a high fever, the temperature rising to 107 degrees F. This is soon followed by lameness of one or more limbs, swellings under the skin at the rump, thighs, and flanks, or the neck and shoulder. These swellings are never seen below the knees or hocks. This swelling is at first small and painful, but it spreads very rapidly in both extent and depth. When it is stroked or handled a peculiar crackling sound is distinctly heard under the skin, almost identical with the sound of rustling paper. This is due to a collection of gas formed by the germs as they multiply in numbers. At this

stage the skin becomes dry and parchment-like, and cool to the touch in the centre of the swelling.

If cut into a frothy, dark red, rather foul smelling fluid is discharged, the animal manifesting no pain during this operation.

Treatment—Is of no account since nearly all those attacked die. Some of the older writers suggest that the swellings be opened by deep and long incisions and a strong disinfectant applied. Others recommend that if the swelling appears low down on a limb, a cord should be tied around the limb just above the swelling and the latter opened and treated as stated above.

Prevention is the only method of avoiding losses from this disease. This is accomplished by the use of vaccine with which nearly all cattle raisers are at the present time familiar, the use of which cannot be too highly recommended. If, however, the vaccine is used after the animal has been infected, even though no symptoms are observed, it is of no consequence, as the patient generally dies.

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